

# I Test Suite Overview

#### **Test Suite Structure**

Suite Name : RLCv520

Standards Ref :
PICS Ref :
PIXIT Ref :
Test Method(s) :
Comments :

| Test Group Reference                         | Selection Ref | Test Group Objective | Page Nr |
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| Detailed Comments :                    | •                           |             | •       |  |

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| SS_Defaults/            | SS_Def                    |             | 899     |  |
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| Detailed Comments :     |                           |             |         |  |

## II Declarations Part

|             | Simple Type Definitions |               |  |  |
|-------------|-------------------------|---------------|--|--|
| Type Name   | Type Definition         | Type Encoding | Comments   |  |
| HFNI        | BITSTRING[ 20 ]         |               | Hyper frame number indicator for a RESET PDU. Ref 3G TS 25.322 clause 9.2.2.14                             |  |
| RSN         | BITSTRING[1]            |               | Reset sequence number for a<br>RESET PDU. Ref 3G TS<br>25.322 clause 9.2.2.13                              |  |
| UM_Data     | OCTETSTRING[04095]      |               | Data content for a RLC UM<br>PDU with 7 or 15 bit length<br>indicators. Ref 3G TS<br>25.322 clause 9.2.2.9 |  |
| AccessPtN   | OCTETSTRING[1100]       |               | This is the DNS name. This can take values as per 24.008, 10.5.6.1   |  |
| AddressInfo | OCTETSTRING[016]        |               | Address information, this is the DNS server name. this will be converted into                              |  |
| AM_Data     | OCTETSTRING[04095]      |               | Data content for a RLC AM<br>PDU with 7 or 15 bit length<br>indicators. Ref 3G TS<br>25.322 clause 9.2.2.9 |  |
| AM_SeqNum   | BITSTRING[12]           |               | Sequence number for an AM<br>RLC PDU. Ref 3G TS<br>25.322 clause 9.2.2.3                                   |  |
| AuthRsp     | BITSTRING [32]          |               | Authentication Response<br>Prarameter<br>3G TS 24.008 cl. 10.5.3.2   |  |
| B1          | BITSTRING [1]           |               | Generic type for 1 bit value   |  |
| B128        | BITSTRING [128]         |               | Generic type for 128 bit value   |  |
| B16         | BITSTRING [16]          |               | Generic type for 16 bits value   |  |
| B18         | BITSTRING [18]          |               | Generic type for 18 bits value   |  |
| B2          | BITSTRING [2]           |               | Generic type for 2 bits value  |  |
| B20         | BITSTRING [20]          |               | Generic type for 20 bits value   |  |
| B3          | BITSTRING [3]           |               | Generic type for 3 bits value  |  |
| B4          | BITSTRING [4]           |               | Generic type for 4 bits value  |  |
| B48         | BITSTRING [48]          |               | Generic type for 48 bit value  |  |
| B5          | BITSTRING [5]           |               | Generic type for 5 bits value  |  |
| B6          | BITSTRING [6]           |               | Generic type for 6 bits value  |  |
| B7          | BITSTRING [7]           |               | Generic type for 7 bits value  |  |
| B8          | BITSTRING [8]           |               | Generic type for 8 bits value  |  |
| B80         | BITSTRING [80]          |               | Generic type for 80 bit value  |  |
| Bitmap      | OCTETSTRING[116]        |               | The bitmap within a Bitmap super–field. Ref 3G TS 25.322 clause 9.2.2.11.5                                 |  |
| BitmapLen   | BITSTRING[ 4 ]          |               | The length of a bitmap super field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.11.5                 |  |
| BitRate     | OCTETSTRING[1]          |               | Maximum bit rates supported  |  |
| CauseValue  | OCTETSTRING[1]          |               | SM Cause Value   |  |

|                  | Simple Type Definitions |               |   |  |
|------------------|-------------------------|---------------|---|--|
| Type Name        | Type Definition         | Type Encoding | Comments  |  |
| CLIR_Invocation  | BITSTRING('10100010'B)  |               | CLIR invocation<br>3G TS 24.008 cl. 10.5.4.11b  |  |
| CLIR_Suppression | BITSTRING('10100001'B)  |               | CLIR suppression<br>3G TS 24.008 cl. 10.5.4.11a   |  |
| CtrlPDU_Type     | BITSTRING[3]            |               | PDU type for AM STATUS<br>PDUs. Ref 3G TS 25.322<br>clause 9.2.2.2  |  |
| CTSPerm          | IEI8                    |               | CTSPerm<br>3G TS 24.008 cl. 10.5.3.10<br>value "10100010"B  |  |
| CW_NumberPart    | BITSTRING[3]            |               | The number part (X1X2X3) of a codeword in an RLIST SUFI. Ref 3G TS 25.322 clause 9.2.2.11.6                                   |  |
| DC_Field         | BITSTRING[1]            |               | Control / Data type indicator<br>for AM RLC PDU. Ref 3G<br>TS 25.322 clause 9.2.2.1   |  |
| ExtBit           | BITSTRING[1]            |               | Used to indicate if the next octet will be data, or a length indicator and E bit. Ref 3G TS 25.322 clause 9.2.2.5             |  |
| FollowOnProceed  | IEI8                    |               | Follow On Proceed<br>3G TS 24.008 cl. 10.5.3.7<br>value "10100001"B   |  |
| Fresh            | BITSTRING[32]           |               |   |  |
| GSM_CipheringKey | BITSTRING [64]          |               |   |  |
| HeaderExt        | BITSTRING[2]            |               | Used to indicate if the next<br>octet will be data, or a<br>length indicator and E bit.<br>Ref 3G TS 25.322 clause<br>9.2.2.7 |  |
| IEI4             | B4                      |               | information element identifier, type 1  |  |
| IEI8             | B8                      |               | information element identifier,type 2–4   |  |
| IntegrityKey     | BITSTRING[128]          |               |   |  |
| KeySeq           | B3                      |               | ciphering key sequence<br>3G TS 24008 cl. 10.5.1.2  |  |
| Length           | OCTETSTRING [1]         |               | IE length   |  |
| LenInd15         | BITSTRING[15]           |               | 15 bit length indicator for<br>AM or UM RLC PDU. Ref<br>3G TS 25.322 9.2.2.8  |  |
| LenInd7          | BITSTRING[7]            |               | 7 bit length indicator for AM or UM RLC PDU. Ref 3G TS 25.322 9.2.2.8   |  |
| LIST_Len         | BITSTRING[ 4 ]          |               | The length of a LIST super field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.11.4                                      |  |
| LogicChGERAN     | IA5String               |               | Logical channel (used for Interworking with GERAN)  |  |
| MaxBitRate       | OCTETSTRING[1]          |               | Gaurented Bit rate  |  |
| MaxSDU_Size      | OCTETSTRING[1]          |               | Maximum SDU size  |  |

|                       | Simple Type       | e Definitions |   |
|-----------------------|-------------------|---------------|---|
| Type Name             | Type Definition   | Type Encoding | Comments  |
| MM_RAND               | BITSTRING [128]   |               | Authentication parameter<br>RAND<br>3G TS 24.008 cl. 10.5.3.1   |
| MRW_Len               | BITSTRING[ 4 ]    |               | The length of a MRW super field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.11.8   |
| MsgType               | B8                |               | Message Type<br>3G TS 24.008 cl. 10.4. This<br>type is also used by the<br>BMC protocol.  |
| N_Length              | BITSTRING[ 4 ]    |               | The N_Length field within an MRW superfield. Ref 3G TS 25.322 clause 9.2.2.11.8   |
| O0_8                  | OCTETSTRING[08]   |               | Generic type for 0 to 8 byte value  |
| O3                    | OCTETSTRING [3]   |               | Generic type for 3 byte value   |
| Padding               | HEXSTRING[28192]  |               | Padding for RLC UM or AM PDU. Ref 3G TS 25.322 clause 9.2.2.10 Note that this type should ideally be an OCTETSTRING[14096], but since TTCN does not have a predefined operator for INT_TO_OCT, a HEXSTRING is used instead. |
| PDP_TypeNo            | OCTETSTRING[1]    |               | PDP Type number, this will<br>take values<br>00000001: PDP Type PPP<br>00000010: PDP Type<br>IHOSS<br>01000001: IPv5<br>010101111: IPv6   |
| D. III. Div           | DITOTONICAL       |               | This can take values as per 24.008, clause 10.5.6.4   |
| PollingBit            | BITSTRING[1]      |               | Polling bit used to request a status report from the receiveing RLC AM entitiy. Ref 3G TS 25.322 clause 9.2.2.4   |
| ProtocolDiscriminator | B4                |               | Protocol Discriminator<br>3G TS 24.008 cl. 10.2   |
| ProtoIdContents       | OCTETSTRING[1251] |               | 3G TS 24.008 cl. 10.5.6.3   |
| RejCau                | OCTETSTRING[1]    |               | Reject Cause<br>3G TS 24.008 cl. 10.5.3.6   |
| RLIST_Len             | BITSTRING[ 4 ]    |               | The length of a RLIST super field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.11.6   |
| SapId                 | OCTETSTRING [1]   |               | SAP Identifier ??? defined in several places  |
|                       |                   |               | GERAN 04.06 and 3G TS 24.008 as bitstring[2] ?  |

| Simple Type Definitions |   |               |   |
|-------------------------|---|---------------|---|
| Type Name               | Type Definition                                   | Type Encoding | Comments  |
| SkipIndicator           | B4  |               | Skip Indicator<br>3G TS 24.008 cl. 10.3.1   |
| SS_CN_DomainIdentity    | INTEGER (01)                                      |               | CN domain identity type in TTCN tabular format  |
| SS_RB_Identity          | INTEGER (-3132)                                   |               | RB identity type in TTCN tabular format   |
| SUFI_ListLi             | BITSTRING[4]                                      |               | Number of consecutive<br>PDUs not correctly<br>received following PDU with<br>sequence number SNi. Used<br>in List super field. Ref 3G TS<br>25.322 clause 9.2.2.11.4 |
| SUFI_SN_MRWi            | BITSTRING[12]                                     |               | SN_MRWi field to be used within move receiving window super fields. Ref 3G TS 25.322 clause 9.2.2.11.7  |
| SUFI_Type               | BITSTRING[4]                                      |               | The type of a super field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.11   |
| UE_TestLoopMode         | OCTETSTRING[1]                                    |               | UETestLoopMode<br>3G TS 34.109 cl. 6.2  |
| UM_SeqNum               | BITSTRING[7]                                      |               | Sequence number for an UM<br>RLC PDU. Ref 3G TS<br>25.322 clause 9.2.2.3  |
| UTRAN_GERAN             | IA5String ("UTRAN and<br>GERAN",<br>"UTRAN only") |               |   |

Type Name : AM\_DataStruct

**Encoding Variation:** 

**Comments**: Data part of a AMD PDU embedded in a structured type.

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| data         | AM_Data         |                | 1        |
| filled       | BOOLEAN         |                | 2        |

**Detailed Comments**: 1. Data part of a AM PDU

2. Indicator if data part is filled or not.

Note: This structured type is needed to set the data field to the value OMIT. The indicator is thus

unused.

Type Name : UMD\_PDU\_MSG

**Encoding Variation:** 

Comments : Message part of a UMD PDU. Needed to allow separation of the padding

characters. Unacknowledged mode RLC PDU. Ref 3G TS 25.322 clause 9.2.1.3

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| seqNum       | UM_SeqNum       |                | 1        |
| eBit         | ExtBit          |                | 2        |
| lenInds      | LenInds         |                | 3        |
| data         | UM_Data         |                | 4        |

Detailed Comments: 1. The sequence number for the PDU. Generally this field contains the value

INT\_TO\_BIT( p\_SN, tsc\_UM\_SN\_Size ), where p\_SN is a parameter containing the

current UM SN.

2. If the lenInds field is present, the eBit field shall be tsc\_E\_LI\_AndE\_Bit. Otherwise, the eBit field shall be tsc\_E\_Data.

3. The length indicator group for the PDU. If this field present, this must be indicated by the eBit field.

4. The data field contains the data to be sent, or the data expected to be received. Usually this data is created by using either ts\_GetRxUM\_PRBS, or ts\_GetTxUM\_PRBS.

#### **Structured Type Definition**

Type Name : UM\_DataStruct

**Encoding Variation:** 

**Comments**: Data part of a UMD PDU embedded in a structured type.

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| data         | UM_Data         |                | 1        |
| filled       | BOOLEAN         |                | 2        |

**Detailed Comments**: 1. Data part of a UM PDU

2. Indicator if data part is filled or not.

Note: This structured type is needed to set the data field to the value OMIT. The indicator is thus unused.

Type Name : CellInfoCfg

**Encoding Variation:** 

**Comments**: This structure contains relevant information describing a cell configuration as needed for basic test

Steps like ts\_CreateCell and ts\_IdleUpdated.

NOTE: this information is not related to any PDUs, IEs or ASPs

| Element Name      | Type Definition       | Field Encoding | Comments  |
|-------------------|-----------------------|----------------|---|
| cellId            | INTEGER               |                | Cell Id   |
| frequencyInfo     | FrequencyInfo         |                | Frequency information for current cell                              |
| attenuationLevel  | INTEGER               |                | Value of RF attenuator  |
| priScrmCode       | PrimaryScramblingCode |                | Primary Scrambling Code   |
| powerpCPICH       | DL_TxPower_PCPICH     |                | Absolute Tx Power of (primary) CPICH                                |
| powerpSCH         | DL_TxPower            |                | Tx power level of primary SCH relative to CPICH                     |
| powersSCH         | DL_TxPower            |                | Tx power level of secondary SCH relative to CPICH                   |
| powerpCCPCH       | DL_TxPower            |                | Tx power level of primary CCPCH relative to CPICH                   |
| powersCCPCH       | DL_TxPower            |                | Tx power level of secondary CCPCH relative to CPICH                 |
| powersCCPCH1      | DL_TxPower            |                | Tx power level of secondary CCPCH1 relative to CPICH                |
| timingsCCPCH1     | INTEGER               |                | Timing offset for secondary CCPCH1                                  |
| powerAICH         | AICH_PowerOffset      |                | Tx power level of AICH relative to CPICH                            |
| powerPICH         | PICH_PowerOffset      |                | Tx power level of PICH relative to CPICH                            |
| cellTxPowerLevel  | CellTxPowerLevel      |                | Total cell power level (>= sum of all configured physical channels) |
| tCell             | Tcell                 |                | Cell timing offset (in chips)                                       |
| sfnOffset         | INTEGER               |                | SFN offset (in frames)  |
| puncLimit         | PuncturingLimit       |                | Puncturing limit for PRACH  |
| sf_PRACH          | SF_PRACH              |                | Spreading factor for PRACH  |
| slotFormatsCCPCH1 | SCCPCHSlotFormat      |                | Slot format for secondary CCPCH1                                    |
| mcc               | HEXSTRING             |                | MCC   |
| mnc               | HEXSTRING             |                | MNC   |
| lac               | OCTETSTRING           |                | LAC   |
| rac               | OCTETSTRING           |                | RAC   |
| attFlag           | INTEGER               |                | Attach flag (as broadcasted in BCCH)                                |
| nmo               | OCTETSTRING           |                | Network mode of operation   |
| ura_Identity      | BITSTRING             |                | URA Identity (3GPP 25.331 clause 10.3.2.6)                          |
| t3212             | OCTETSTRING           |                | T3212 value   |

| Structured Type Definition |                          |                |  |
|----------------------------|--------------------------|----------------|--|
| Element Name               | Type Definition          | Field Encoding | Comments   |
| CRNTI                      | C_RNTI                   |                | cell radio network temporary identity assigned to the UE under test, this initial value is for ts_SS_CreateCellFACH. (from 34.123–1) |
| uRNTI                      | U_RNTI                   |                | srnc_Identity and s_RNTI   |
| cellConfig                 | RB_ConfigType            |                | Current configuration of the cell  |
| dRX_CycleLength            | DRX_CycleLengthStructure |                | To hold the 3 dRX_CycleLength  |
| uL_ScramblingCode          | UL_ScramblingCode        |                | To hold the UL scrambling to be used in the cell   |
| DL_DPCH_SHO                | BOOLEAN                  |                | To be used in SHO (Active set update) test cases to indicate whether a DL DPCH is configured   |
| UL_DPCH_SHO                | BOOLEAN                  |                | To be used in SHO (Active set update) test cases to indicate whether a DL DPCH is configured   |
| dl_DPCH_2ndScrCode         | SecondaryScramblingCode  |                | Secondary scrambling code for the DL DPCH  |

| Structured | Type | Definition |
|------------|------|------------|
|            |      |            |

Type Name : DRX\_CycleLengthStructure

**Encoding Variation:** 

Comments : Structure taht contains CN DRX cycle length (CS and PS) and the UTRAN DRX Cycle length. This

type is to be used in the CellInfoCfg in order to keep all DRX values.

| Element Name          | Type Definition                   | Field Encoding | Comments |
|-----------------------|-----------------------------------|----------------|----------|
| cN_CS_DRX_CycleLength | CN_DRX_CycleLengthCoef ficient    |                |          |
| cN_PS_DRX_CycleLength | CN_DRX_CycleLengthCoef ficient    |                |          |
| uTRAN_DRX_CycleLength | UTRAN_DRX_CycleLength Coefficient |                |          |
| Detailed Comments :   |                                   |                |          |

**Type Name**: AuthenticationFailureParameter

**Encoding Variation:** 

Comments : Authentication Failure Parameter (TLV)

3G TS 24.008 cl. 10.5.3.2.2

| Element Name | Type Definition | Field Encoding | Comments  |
|--------------|-----------------|----------------|---|
| iei          | IEI8            |                | '00100010'B for MM (22<br>hex)<br>'00110000'B for GMM (30<br>hex) |
| iel          | Length          |                | M<br>1 octet  |
| auts         | BITSTRING[112]  |                | AUTS, 14 octets   |

**Detailed Comments:** 

**Structured Type Definition** 

**Type Name**: AC\_ReferenceNumber

**Encoding Variation:** 

Comments : Cipher Algorithm

3GPP 24.008 / 10.5.5.19

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| value        | B4              |                |          |

**Detailed Comments:** 

**Structured Type Definition** 

**Type Name**: AUTN **Encoding Variation**:

Comments : Authentication Parameter AUTN

3G TS 24.008 cl. 10.5.3.1.1

| Element Name | Type Definition | Field Encoding | Comments                      |
|--------------|-----------------|----------------|-------------------------------|
| iei          | IEI8            |                | '00100000'B                   |
| iel          | Length          |                | '10'O                         |
| aUTN         | BITSTRING[128]  |                | Authentication Parameter AUTN |

Type Name : AccessPtName

**Encoding Variation:** 

**Comments** : 24.007, section 10.5.6.1

| Element Name | Type Definition | Field Encoding | Comments                             |
|--------------|-----------------|----------------|--------------------------------------|
| iei          | IEI8            |                | '00101000'B (28hex)                  |
| length       | Length          |                |                                      |
| accessPtName | AccessPtN       |                | Access point name value 3–102 octets |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : AttachResult

**Encoding Variation:** 

Comments : Attach result

3GPP 24.008 / 10.5.5.1

| Element Name | Type Definition | Field Encoding | Comments      |
|--------------|-----------------|----------------|---------------|
| spare        | B1              |                |               |
| result       | B3              |                | Attach result |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : AttachType

**Encoding Variation:** 

**Comments** : Attach type

3GPP 24.008 / 10.5.5.2

| Element Name           | Type Definition | Field Encoding | Comments          |  |
|------------------------|-----------------|----------------|-------------------|--|
| for                    | B1              |                | Follow-on request |  |
| type                   | B3              |                | Type of attach    |  |
| Pote 11 - 1 Occurrence |                 |                |                   |  |

Type Name : AuthRspExt

**Encoding Variation:** 

**Comments**: Authentication Response parameter (extension)

3G TS 24.008 cl. 10.5.3.2.1

| Element Name | Type Definition | Field Encoding | Comments  |
|--------------|-----------------|----------------|---|
| iei          | IEI8            |                | '00100001'B for MM (21<br>hex)<br>'00101001'B for GMM (29<br>hex) |
| iel          | Length          |                |   |
| rES          | BITSTRING[196]  |                | Authentication Parameter RES                                      |
|              |                 | ·              |   |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : AuthRsp\_tv

**Encoding Variation:** 

**Comments**: Authentication Response parameter (TV, 5 octets)

3G TS 24.008 cl. 10.5.3.2

| '00100010'B (22 hex)         |
|------------------------------|
| Authentication Parameter RES |
|                              |

**Detailed Comments:** 

**Structured Type Definition** 

**Type Name**: AuthenticationParamterRAND

**Encoding Variation:** 

**Comments**: Authentication Parameter RAND (TV, 17 octets)

3G TS 24.008 cl. 10.5.3.1

| Element Name | Type Definition | Field Encoding | Comments                            |
|--------------|-----------------|----------------|-------------------------------------|
| iei          | IEI8            |                | '00100001'B (21 hex)                |
| randValue    | BITSTRING[128]  |                | Authentication Parameter RAND value |

Type Name : Bcap **Encoding Variation:** 

: Bearer capability (CC information element) 3G TS 24.008 cl. 10.5.4.5 Comments

| Element Name    | Type Definition | Field Encoding | Comments   |
|-----------------|-----------------|----------------|--|
| iei             | IEI8            |                | information element<br>identifier<br>'00000100'B         |
| iel             | Length          |                | length   |
| extBit3         | B1              |                | extension bit  |
| radioChRequi    | B2              |                | radio channel requirements<br>ue->n, GSM,<br>octet 3     |
| codingStd       | B1              |                | coding standard, '0'B, octet 3                           |
| transferMode    | B1              |                | transfer mode octet 3                                    |
| itc             | B3              |                | information transfer capability, octet 3                 |
| bcap3aEtc1      | Bcap3aEtc       |                | octet 3a etc no.1  |
| bcap3aEtc2      | Bcap3aEtc       |                | octet 3a etc no.2  |
| bcap3aEtc3      | Bcap3aEtc       |                | octet 3a etc no.3  |
| bcap3aEtc4      | Bcap3aEtc       |                | octet 3a etc no.4  |
| bcap3aEtc5      | Bcap3aEtc       |                | octet 3a etc no.5  |
| bcap3aEtc6      | Bcap3aEtc       |                | octet 3a etc no.6  |
| extBit4         | B1              |                | extension bit, octet 4                                   |
| compress        | B1              |                | compression, ue->network, octet 4                        |
| structure       | B2              |                | structure, '0, 3', octet 4                               |
| duplexMode      | B1              |                | duplex mode, '1'B, octet 4                               |
| cfg             | B1              |                | configuration, '0'B, octet 4                             |
| nirr            | B1              |                | negotiation of intermediate rate requested, GSM, octet 4 |
| establish       | B1              |                | establishment, '0'B, octet 4                             |
| extBit5         | B1              |                | extension bit, octet 5                                   |
| accessId        | B2              |                | access identify, '00'B, octet 5                          |
| rateAdapt       | B2              |                | rate adaption, octet 5                                   |
| sacp            | B3              |                | signalling access protocol, '1 – 6', octet 5             |
| extBit5a        | B1              |                | extension bit, octet 5a                                  |
| OherItc         | B2              |                | Other ITC , octet 5a                                     |
| OtherRateAdapt  | B2              |                | Other Rate adaptation, octet5a                           |
| spare3          | B3              |                | spare bits – 3 bits                                      |
| extBit5b        | B1              |                | extension bit, '1'B, octet 5b                            |
| rateAdaptHeader | B1              |                | rate adaptation header, octet 5b                         |
| multiFrame      | B1              |                | Multi frame, octet 5b                                    |
| mode            | B1              |                | Mode of operation, octet 5b                              |
| logLinkld       | B1              |                | logical link identifier negotiation, octet 5b            |

|                   | Structured Type Definition |                |  |  |
|-------------------|----------------------------|----------------|--|--|
| Element Name      | Type Definition            | Field Encoding | Comments   |  |
| assignorAssignee  | B1                         |                | assignor/assignee, octet 5b                                    |  |
| inBandOutBand     | B1                         |                | in band/out band negotiation, octet 5b                         |  |
| spare1            | B1                         |                | sapre bit – 1 bit  |  |
| extBit6           | B1                         |                | extension bit, octet 6   |  |
| layer1Id          | B2                         |                | Layter 1 identity, '01'B, octet 6                              |  |
| userInfoLayer1    | B4                         |                | user information Layer 1<br>protocol, '0000'B, octet 6         |  |
| syncAsync         | B1                         |                | synchronous bit, octet 6                                       |  |
| extBit6a          | B1                         |                | extension bit, octet 6a  |  |
| numStopBits       | B1                         |                | number of stop bits, octet<br>6a                               |  |
| nego              | B1                         |                | negotiation bit, '0'B, octet<br>6a                             |  |
| numDataBits       | B1                         |                | number of data bits, octet<br>6a                               |  |
| userRate          | B4                         |                | user rate, GSM, octet 6a                                       |  |
| extBit6b          | B1                         |                | extension bit, octet 6b  |  |
| intermRate        | B2                         |                | intermediate rate, octet 6b                                    |  |
| nicTx             | B1                         |                | network independent clock<br>on transmission, GSM,<br>octet 6b |  |
| nicRx             | B1                         |                | network independent clock<br>on reception, GSM, octet<br>6b    |  |
| parity            | В3                         |                | parity information, octet 6b                                   |  |
| extBit6c          | B1                         |                | extension bit, octet 6c  |  |
| connectElem       | B2                         |                | connection element, octet<br>6c                                |  |
| modemType         | B5                         |                | modem type, octet 6c   |  |
| extBit6d          | B1                         |                | extension bit, octet 6d  |  |
| OtherModemType    | B2                         |                | Other Modem type, octet 6d                                     |  |
| FixedNtwUserRate  | B5                         |                | Fixed Network user rate, octet 6d                              |  |
| extBit6e          | B1                         |                | extension bit, octet 6e  |  |
| acceptChCoding    | B4                         |                | acceptable channel coding, octet 6e                            |  |
| maxNumTrafficCh   | В3                         |                | maximum number of traffic channel, octet 6e                    |  |
| extBit6f          | B1                         |                | extension bit, octet 6f  |  |
| ulMl              | B3                         |                | User initiated modification indication, octet 6f               |  |
| wAIUR             | B4                         |                | wanted air interface user rate, octet 6f                       |  |
| extBit6g          | B1                         |                | extension bit, octet 6g  |  |
| acceptChCodingExt | B3                         |                | acceptable channel coding extended, octet 6g                   |  |
| asymInd           | B2                         |                | asymmetry indication, octet 6g                                 |  |
| spare2            | B2                         |                | spare 2 bits , octet 6g  |  |

#### Continued from previous page

| Structured Type Definition                           |    |  |                                       |  |
|--|----|--|---------------------------------------|--|
| Element Name Type Definition Field Encoding Comments |    |  |                                       |  |
| extBit7  | B1 |  | extension bit, octet 7                |  |
| layer2id   | B2 |  | L2 identity, octet 7                  |  |
| userInfoLayer2                                       | B5 |  | user information L2 protocol, octet 7 |  |
| Detailed Comments :                                  |    |  | •                                     |  |

#### **Structured Type Definition**

Type Name : Bcap3aEtc

**Encoding Variation:** 

**Comments**: Speech Versions preferences as supported by the EFR mobile – see 3G TS 24.008 cl.

10.5.4.5/octet 3a etc/"speech version indication"

| Element Name  | Type Definition | Field Encoding | Comments                            |
|---------------|-----------------|----------------|-------------------------------------|
| extBit        | B1              |                | extension bit ('0'B)                |
| coding        | B1              |                | Octet a1, Coding ('0'B)             |
| spare2        | B2              |                | Octet a1, Spare bits ('00'B)        |
| speechVersion | B4              |                | Octet a1, Speech version indication |

**Detailed Comments:** 

#### **Structured Type Definition**

Type Name : CC\_Capabilities

**Encoding Variation:** 

**Comments** : Call Control Capabilities

3G TS 24.008 cl. 10.5.4.5a

| Element Name        | Type Definition | Field Encoding | Comments                                   |  |
|---------------------|-----------------|----------------|--|--|
| iei                 | IEI8            |                | information element identifier '00010101'B |  |
| iel                 | Length          |                | length                                     |  |
| maxNumBearer        | B4              |                | maximum number o fudpported bearer         |  |
| spare2              | B2              |                | spare bits                                 |  |
| рср                 | B1              |                | PCP  |  |
| dtmf                | B1              |                | indication of supporting DTMF              |  |
| spare4              | B4              |                | spare bits                                 |  |
| maxNumSpeechBearer  | B4              |                | maximum number of speech bearers           |  |
| Detailed Comments : |                 | •              | •  |  |

Type Name : CDPN

**Encoding Variation:** 

Comments : Called party BCD number (CC information element)

3G TS 24.008 cl. 10.5.4.7

| Element Name        | Type Definition  | Field Encoding | Comments   |
|---------------------|------------------|----------------|--|
| iei                 | IEI8             |                | information element<br>identifier<br>'01011110'B |
| iel                 | Length           |                | length   |
| typeOfNumPlan       | TypeOfNumPlan    |                | type of number and numbering plan identification |
| digits              | OCTETSTRING[040] |                | BCD numbers                                      |
| Datailed Comments : | •                |                |  |

**Detailed Comments:** 

#### **Structured Type Definition**

: CDPS Type Name

**Encoding Variation:** 

Comments : Called party subaddress (CC information element)

3G TS cl. 10.5.4.8

| Element Name        | Type Definition | Field Encoding | Comments   |  |
|---------------------|-----------------|----------------|--|--|
| iei                 | IEI8            |                | information element<br>identifier<br>'01101101'B |  |
| iel                 | Length          |                | length   |  |
| subadrs             | Subadrs         |                | Subaddress                                       |  |
| Detailed Comments : |                 |                |  |  |

etailed Comments :

#### **Structured Type Definition**

Type Name : CGPS

**Encoding Variation:** 

Comments : Calling party subaddress (CC information element)

3G TS 24.008 cl. 10.5.4.10

| Element Name | Type Definition | Field Encoding | Comments   |
|--------------|-----------------|----------------|--|
| iei          | IEI8            |                | information element<br>identifier<br>'01011101'B |
| iel          | Length          |                | length   |
| subadrs      | Subadrs         |                | Subaddress                                       |

Type Name : CellIndependantInfo

**Encoding Variation:** 

**Comments**: This structure contains relevant information independant from the cell

| Element Name                 | Type Definition             | Field Encoding | Comments   |
|------------------------------|-----------------------------|----------------|--|
| cs_cipheringStarted          | BOOLEAN                     |                | Set to TRUE when ciphering is started, to be initiated in Security Steps and used in RAB establishment Steps               |
| ps_cipheringStarted          | BOOLEAN                     |                | Set to TRUE when ciphering is started, to be initiated in Security Steps and used in RAB establishment Steps               |
| recentSecureDomain           | CN_DomainIdentity           |                | the domain on which security was recently started, and hence the SRB are ciphered and Integrit protected with this domain. |
| dL_CipherMode                | CipheringModeCommand        |                | To hold the DL cipher mode to be used in RAB Steps.  |
| uL_CipherMode                | RB_ActivationTimeInfoList   |                | To hold the UL cipher mode to be used in RAB Steps.  |
| cipheringAlgorithmCapability | BITSTRING                   |                | BITSTRING thats hold the ciphering algorithm capability supported by UE  |
| integrityStarted             | BOOLEAN                     |                | Set to TRUE when integrity is started  |
| dL_Integrity                 | IntegrityProtectionModeInfo |                | To hold the DL integrity protection active during a test case  |
| uL_Integrity                 | IntegrityProtActivationInfo |                | To hold the UL integrity protection active during a test case  |
| dl_IntegrityCheckInfo        | IntegrityCheckInfo          |                | To hold the integrity information to be sent   |
| start_CS                     | START_Value                 |                | To hold the START value for CS Domain  |
| start_PS                     | START_Value                 |                | To hold the START value for PS Domain  |

| <b>~</b> |         | D (:    |        |
|----------|---------|---------|--------|
| Structu  | red Ivo | e Detii | าเtเดท |

Type Name : CellNotification

**Encoding Variation:** 

Comments : Cell notification

3GPP 24.008 / 10.5.5.21

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| iei          | IEI8            |                | '10001100'B (8C hex) |

Type Name : CiphAlgorithm

**Encoding Variation:** 

Comments : Cipher Algorithm

3GPP 24.008 / 10.5.5.3

| Type Definition | Field Encoding | Comments |
|-----------------|----------------|----------|
| B1              |                |          |
| B3              |                |          |
|                 | 11             | 11       |

**Detailed Comments:** 

#### **Structured Type Definition**

Type Name : CiphKeySeqNum

**Encoding Variation:** 

Comments : Ciphering Key Sequence Number

3G TS 24.008 cl. 10.5.1.2

| Element Name       | Type Definition | Field Encoding | Comments |  |
|--------------------|-----------------|----------------|----------|--|
| spare1             | B1              |                |          |  |
| keySeq             | KeySeq          |                |          |  |
| Patrillad Comments |                 |                |          |  |

**Detailed Comments:** 

#### **Structured Type Definition**

Type Name : CiphKeySeqNum\_tv

**Encoding Variation:** 

Comments : Ciphering Key Sequence Number

3G TS 24.008 cl. 10.5.1.2

| Element Name               | Type Definition | Field Encoding | Comments |  |
|----------------------------|-----------------|----------------|----------|--|
| iei                        | IEI4            |                | '1000'B  |  |
| spare1                     | B1              |                |          |  |
| keySeq                     | KeySeq          |                |          |  |
| Partition of the Community |                 |                |          |  |

**Detailed Comments:** 

#### **Structured Type Definition**

Type Name : Codec Encoding Variation :

Comments : Codec

3G TS 24.008 cl. 10.5.4.32

| Element Name        | Type Definition | Field Encoding | Comments               |  |
|---------------------|-----------------|----------------|------------------------|--|
| sysld               | OCTETSTRING[1]  |                | system identification  |  |
| len                 | Length          |                | length                 |  |
| bitMap1to8          | BITSTRING[8]    |                | codec bitmap bits 1-8  |  |
| bitMap9to16         | BITSTRING[8]    |                | codec bitmap bits 9-16 |  |
| Detailed Comments : |                 |                |                        |  |

Type Name : CodecList

**Encoding Variation:** 

Comments : Supported Codec List

3G TS 24.008 cl. 10.5.3.32

| Element Name         | Type Definition | Field Encoding | Comments             |
|----------------------|-----------------|----------------|----------------------|
| iei                  | IEI8            |                | '01000000'B (40 hex) |
| iel                  | Length          |                | length               |
| codec1               | Codec           |                | Codec                |
| codec2               | Codec           |                | Codec                |
| codec3               | Codec           |                | Codec                |
| codec4               | Codec           |                | Codec                |
| codec5               | Codec           |                | Codec                |
| Pote 11 - 10 - march |                 |                |                      |

Detailed Comments :

**Structured Type Definition** 

Type Name : CodeWord

**Encoding Variation:** 

Comments : Code word within an RList super field. Ref 3G TS 25.322 clause 9.2.2.11.6

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| numberPart   | CW_NumberPart   |                |          |
| statusInd    | BITSTRING[1]    |                |          |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : DRXparamter

**Encoding Variation:** 

Comments : DRX paramter

3GPP 24.008 / 10.5.5.6

| Element Name        | Type Definition | Field Encoding | Comments                                 |  |
|---------------------|-----------------|----------------|--|--|
| splitPGcycleCode    | B8              |                | Split PG cycle code                      |  |
| cnDRXcoef           | B4              |                | CN specific DRX cycle length coefficient |  |
| splitOnCCCH         | B1              |                | Split on CCCCH                           |  |
| nonDRXtimer         | B3              |                | non-DRX timer                            |  |
| Detailed Comments : |                 |                |  |  |

Type Name : DRXparamter\_tv

**Encoding Variation:** 

Comments : DRX paramter

3GPP 24.008 / 10.5.5.6

| Element Name       | Type Definition | Field Encoding | Comments                                 |  |
|--------------------|-----------------|----------------|--|--|
| iei                | IEI8            |                | '00100111'B (hex 27)                     |  |
| splitPGcycleCode   | B8              |                | Split PG cycle code                      |  |
| cnDRXcoef          | B4              |                | CN specific DRX cycle length coefficient |  |
| splitOnCCCH        | B1              |                | Split on CCCCH                           |  |
| nonDRXtimer        | B3              |                | non-DRX timer                            |  |
| Detailed Comments: |                 |                |  |  |

Detailed Comments:

**Structured Type Definition** 

Type Name : DetachType

**Encoding Variation:** 

Comments : Detach type

3GPP 24.008 / 10.5.5.5

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| powOff       | B1              |                |          |
| type         | B3              |                |          |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : EmergNum

**Encoding Variation:** 

Comments : Emergency Number

3G TS 24.008 cl. 10.5.3.13

| Element Name        | Type Definition  | Field Encoding | Comments                      |
|---------------------|------------------|----------------|-------------------------------|
| len                 | Length           |                | length                        |
| emergServCat        | EmergServCat     |                | Emergency Service<br>Category |
| digits              | OCTETSTRING[010] |                | BCD numbers                   |
| Detailed Comments : |                  |                |                               |

Type Name : EmergNumList

**Encoding Variation:** 

**Comments**: Emergency Number List

3G TS 24.008 cl. 10.5.3.13

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| iei          | IEI8            |                | '00110100'B (34 hex) |
| iel          | Length          |                | length               |
| emergNum1    | EmergNum        |                | Emergency Number     |
| emergNum2    | EmergNum        |                | Emergency Number     |
| emergNum3    | EmergNum        |                | Emergency Number     |
| emergNum4    | EmergNum        |                | Emergency Number     |
| emergNum5    | EmergNum        |                | Emergency Number     |
| D . !! . ! O |                 |                |                      |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : EmergServCat

**Encoding Variation:** 

**Comments**: Emergency Service Category

3GPP 24.008 / 10.5.4.33

| Element Name | Type Definition | Field Encoding | Comments          |
|--------------|-----------------|----------------|-------------------|
| spare        | B3              |                |                   |
| value        | B5              |                | Emergency Service |
|              |                 |                | Category value    |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : Facility

**Encoding Variation:** 

Comments : Facility information element

3G TS 24.008 cl. 10.5.4.15

| Element Name | Type Definition | Field Encoding | Comments   |
|--------------|-----------------|----------------|--|
| iei          | IEI8            |                | information element<br>identifier<br>'00011100'B |
| iel          | Length          |                | length   |
| comps        | OCTETSTRING     |                | Component  |

Type Name : ForceToStandby

**Encoding Variation:** 

**Comments**: Force to standby

3GPP 24.008 / 10.5.5.7

| Element Name | Type Definition | Field Encoding | Comments               |
|--------------|-----------------|----------------|------------------------|
| spare        | B1              |                |                        |
| value        | B3              |                | Force to standby value |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : GMM\_AUTN

**Encoding Variation:** 

**Comments**: Authentication Parameter AUTN- to be used in GMM constraints

3G TS 24.008 cl. 10.5.3.1.1

| Element Name | Type Definition | Field Encoding | Comments                      |
|--------------|-----------------|----------------|-------------------------------|
| iei          | IEI8            |                | '00101000'B                   |
| iel          | Length          |                | '10'O                         |
| aUTN         | BITSTRING[128]  |                | Authentication Parameter AUTN |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : GMM\_Cause

**Encoding Variation:** 

Comments : GMM cause

3GPP 24.008 / 10.5.5.14

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| iei          | IEI8            |                | '00100101'B (25 hex) |
| value        | B8              |                | Cause value          |

Type Name : GMM\_MS\_Identity

**Encoding Variation:** 

Comments : Mobile Identity

3G TS 24.008 cl. 10.5.1.4

| Element Name | Type Definition | Field Encoding | Comments              |
|--------------|-----------------|----------------|-----------------------|
| iei          | IEI8            |                | '00100011'B           |
| iel          | Length          |                |                       |
| iDigit1      | B4              |                | 1st identitity digit  |
| oddEvenInd   | B1              |                | Odd/even indicator    |
| typeOfId     | B3              |                | Type of identity      |
| otherDigits  | OCTETSTRING[08] |                | Other identity digits |

**Detailed Comments:** Maximum number of digits is 16 (IMEISV). Filler may be used.

#### **Structured Type Definition**

Type Name : GMM\_MS\_IdentityPTMSI

**Encoding Variation:** 

Comments : Mobile Identity

3G TS 24.008 cl. 10.5.1.4

| Element Name | Type Definition | Field Encoding | Comments              |
|--------------|-----------------|----------------|-----------------------|
| iei          | IEI8            |                | '00011000'B           |
| iel          | Length          |                |                       |
| iDigit1      | B4              |                | 1st identitity digit  |
| oddEvenInd   | B1              |                | Odd/even indicator    |
| typeOfId     | B3              |                | Type of identity      |
| otherDigits  | OCTETSTRING[08] |                | Other identity digits |
|              |                 |                |                       |

Detailed Comments: Maximum number of digits is 16 (IMEISV). Filler may be used.

| Structured ' | Tvpe | Definition |
|--------------|------|------------|
|--------------|------|------------|

Type Name : GPRS\_Timer

**Encoding Variation:** 

Comments : GPRS timer

3GPP 24.008 / 10.5.7.3

| Element Name | Type Definition | Field Encoding | Comments            |
|--------------|-----------------|----------------|---------------------|
| iei          | IEI8            |                | 00010111'B (17 hex) |
| unit         | В3              |                | Unit                |
| value        | B5              |                | Timer value         |

Type Name : GPRS\_Timer2

**Encoding Variation:** 

Comments : GPRS timer

3GPP 24.008 / 10.5.7.4

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| iei          | IEI8            |                | '00101010'B (2A hex) |
| iel          | Length          |                | length               |
| unit         | B3              |                | Unit                 |
| value        | B5              |                | Timer value          |

#### **Structured Type Definition**

Type Name : GPRS\_Timer\_v

**Encoding Variation:** 

Comments : GPRS timer

3GPP 24.008 / 10.5.7.3

| Element Name | Type Definition | Field Encoding | Comments    |
|--------------|-----------------|----------------|-------------|
| unit         | B3              |                | Unit        |
| value        | B5              |                | Timer value |

**Detailed Comments:** 

#### **Structured Type Definition**

Type Name : HLC Encoding Variation :

Comments : High layer compatibility (CC information element)

3G TS 24.008 cl. 10.5.4.16, ITU Q.931

| IEI8   |                      | information element                                |
|--------|----------------------|--|
|        |                      | identifier<br>'01111101'B                          |
| Length |                      | length   |
| B1     |                      | extension bit ('1'B)                               |
| B2     |                      | coding standard                                    |
| B3     |                      | interpretation                                     |
| B2     |                      | presentation method of protocol profile            |
| B1     |                      | extension bit, octet 4                             |
| В7     |                      | high layer characteristics identification          |
| B1     |                      | extension bit, '1'B, octet 4a                      |
| B7     |                      | extended high layer characteristics identification |
|        | B1 B2 B3 B2 B1 B7 B1 | B1 B2 B3 B2 B1 B7 B1                               |

Type Name : IMEISVRequest

**Encoding Variation:** 

Comments : IMEISV Request

3GPP 24.008 / 10.5.5.10

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| spare1       | B1              |                |          |
| value        | B3              |                |          |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : LB\_SetupRB\_IE

**Encoding Variation:** 

Comments : LB Setup RAB Subflow

3G TS 34.109 cl. 6.2

| Element Name | Type Definition | Field Encoding | Comments     |
|--------------|-----------------|----------------|--------------|
| rLC_SDU_Size | BITSTRING [16]  |                | RLC SDU size |
| spare_2      | BITSTRING [3]   |                |              |
| rB_Identity  | BITSTRING[5]    |                |              |
|              | _               | _              | •            |

Type Name : LLC **Encoding Variation:** 

Comments

: Low layer compatibility (CC information element) 3G TS 24.008 cl. 10.5.4.18 and ETS DE/SPS-5034-1 (update of ETS 300 102-1)

| Element Name     | Type Definition | Field Encoding | Comments   |
|------------------|-----------------|----------------|--|
| iei              | IEI8            |                | information element identifier '01111100'B           |
| iel              | Length          |                | length   |
| extBit3          | B1              |                | extension bit  |
| codingStd        | B2              |                | coding standard, octet 3                             |
| itc              | B5              |                | information transfer capability, octet 3             |
| extBit3a         | B1              |                | extension bit, octet 3a                              |
| negoInd          | B1              |                | negotiation indicator, octet<br>3a                   |
| spare6           | B6              |                | 6 spare bits   |
| extBit4          | B1              |                | extension bit, octet 4                               |
| transferMode     | B2              |                | transfer mode  |
| infoTransferRate | B5              |                | information transfer rate, octet 4                   |
| extBit4_1        | B1              |                | extension bit, octet 4.1                             |
| rateMultiplier   | B7              |                | rate multiplier, octet 4.1                           |
| extBit5          | B1              |                | extension bit, octet 5                               |
| layer1ld         | B2              |                | Layter 1 identity, '01'B, octet 5                    |
| userInfoLayer1   | B5              |                | user information Layer 1 protocol, '0000'B, octet 5  |
| extBit5a         | B1              |                | extension bit, octet 5a                              |
| syncAsync        | B1              |                | synchronous bit, octet 5a                            |
| nego             | B1              |                | negotiation bit, octet 5a                            |
| userRate         | B5              |                | user rate, octet 5a                                  |
| extBit5b1        | B1              |                | extension bit, octet 5b1                             |
| intermRate       | B2              |                | intermediate rate, octet 5b1                         |
| nicTx            | B1              |                | network independent clock on transmission, octet 5b1 |
| nicRx            | B1              |                | network independent clock on reception, octet 5b1    |
| flowCtrlTx       | B1              |                | flow control on transmission, octet 5b1              |
| flowCtrlRx       | B1              |                | flow control on reception, octet 5b1                 |
| spare1           | B1              |                | 1 spare bit, '0'B, octet 5b1                         |
| extBit5b2        | B1              |                | extension bit, octet 5b2                             |
| rateAdaptHeader  | B1              |                | rate adaptation header, octet 5b2                    |
| multiFrame       | B1              |                | Multi frame, octet 5b2                               |
| mode             | B1              |                | Mode of operation, octet 5b2                         |
| logLinkId        | B1              |                | logical link identifier negotiation, octet 5b2       |
| assignorAssignee | B1              |                | assignor/assignee, octet 5b2                         |

|                        | Structured Ty   | ype Definition |  |
|------------------------|-----------------|----------------|--|
| Element Name           | Type Definition | Field Encoding | Comments   |
| inBandOutBand          | B1              |                | in band/out band<br>negotiation, octet 5b2                   |
| spare1_5b2             | B1              |                | sapre bit - 1 bit, octet 5b2                                 |
| extBit5c               | B1              |                | extension bit, octet 5c                                      |
| numStopBits            | B2              |                | number of stop bits, octet 5c                                |
| numDataBits            | B2              |                | number of data bits, octet 5c                                |
| parity                 | B3              |                | parity, octet 5c   |
| extBit5d               | B1              |                | extension bit, octet 5d                                      |
| duplexMode             | B1              |                | duplex mode, octet 5d  |
| modemType              | B6              |                | modem type, octet 5d   |
| extBit6                | B1              |                | extension bit, octet 6                                       |
| layer2id               | B2              |                | L2 identity, octet 6   |
| userInfoLayer2         | B5              |                | user information L2 protocol, octet 6                        |
| extBit6a1              | B1              |                | extension bit, octet 6a1                                     |
| modeLayer2             | B2              |                | mode, octet 6a1  |
| spare3                 | B3              |                | spare bits , '000'B, octet<br>6a1                            |
| q933                   | B2              |                | Q.933 use, octet 6a1   |
| extBit6a2              | B1              |                | extension bit, octet 6a2                                     |
| userSpecifLayer2       | B7              |                | user specified layer 2<br>protocol information, octet<br>6a2 |
| extBit6b               | B1              |                | extension bit, octet 6b                                      |
| windowSize             | B7              |                | window size, octet 6b  |
| extBit7                | B1              |                | extension bit, octet 7                                       |
| layer3id               | B2              |                | L3 identity, octet 7   |
| userInfoLayer3         | B5              |                | user information L3 protocol, octet 7                        |
| extBit7a1              | B1              |                | extension bit, octet 7a2                                     |
| OptionUserSpecifLayer3 | B7              |                | user specified layer 3 protocol information, octet 7a2       |
| extBit7a2              | B1              |                | extension bit, '1'B, octet 7a2                               |
| modeLayer3             | B2              |                | mode, octet 7a2  |
| spare5                 | B5              |                | spare bits , '00000'B, octet 7a2                             |
| extb7b                 | B1              |                | extension bit, octet 7b                                      |
| spare3_7b              | B3              |                | spare bits , '000'B, octet 7b                                |
| defaultPacketSize      | B4              |                | default packet size, octet 7b                                |
| extBit7c               | B1              |                | extension bit, '1'B, octet 7c                                |
| packetWindowSize       | В7              |                | packet window size, octet 7bc                                |
| extBit7a3              | B1              |                | extension bit, octet 7a3                                     |
| spare3_7a3             | В3              |                | 3 spare bits   |

Continued from previous page

| Structured Type Definition |                 |                |   |
|----------------------------|-----------------|----------------|---|
| Element Name               | Type Definition | Field Encoding | Comments  |
| addLayer3ProtocolInfo      | B4              |                | additional layer 3 protocol information (most significant bits), octet 7a3  |
| extBit7a4                  | B1              |                | extension bit, octet 7a4  |
| spare3_7a4                 | В3              |                | 3 spare bits  |
| addLayer3ProtocolInfoL     | B4              |                | additional layer 3 protocol information (least significant bits), octet 7a4 |

**Structured Type Definition** 

Type Name : LLC\_SAPI\_v

**Encoding Variation:** 

**Comments** : 24.007, clause 10.5.6.9

| Element Name   | Type Definition | Field Encoding | Comments       |
|----------------|-----------------|----------------|----------------|
| spare          | B4              |                |                |
| ILC_SAPI_Value | B4              |                | LLC SAPI Value |

**Detailed Comments:** 

## **Structured Type Definition**

Type Name : LenInd15AndE\_Bit

**Encoding Variation:** 

**Comments**: This type is used to represent a 15 bit length indicator and an extension bit, used in both AMD and

UMD PDUs. Ref 3G TS 25.322 clauses 9.2.1.3 and 9.2.1.4.

| Element Name        | Type Definition | Field Encoding | Comments |
|---------------------|-----------------|----------------|----------|
| lenInd              | LenInd15        |                |          |
| extBit              | ExtBit          |                |          |
| Poteilad Comments : |                 |                |          |

**Detailed Comments:** 

### **Structured Type Definition**

Type Name : LenInd7AndE\_Bit

**Encoding Variation:** 

**Comments**: This type is used to represent a 7 bit length indicator and an extension bit, used in both AMD and

UMD PDUs. Ref 3G TS 25.322 clauses 9.2.1.3 and 9.2.1.4.

| Element Name           | Type Definition | Field Encoding | Comments |
|------------------------|-----------------|----------------|----------|
| lenInd                 | LenInd7         |                |          |
| extBit                 | ExtBit          |                |          |
| Data il a la Communità |                 |                |          |

Type Name : LenInds

**Encoding Variation:** 

**Comments**: This type is used to represent a Length Indicator group.

Note that this type definitions supports up to 5 seven bit length indicators, or up to 3 fifteen bit length indicators. If any test cases require more LIs than this, the test suite will need to be updated.

LI groups using this type definition shall never contain both 15 and 7 bit length indicators.

When transmitting an AMD PDU, the TTCN author is responsible for ensuring that the PDU either:

- 1. Contains no length indicators, by using c\_LIsEmpty, and setting the headerExt field in the AMD\_PDU constraint to tsc\_HE\_Data.
- 2. Contains 1 to 5 seven bit length indicators, by using one of the constraints c\_Lls1\_7BitLl, c\_Lls2\_7BitLls, c\_Lls3\_7BitLls, or c\_Lls5\_7BitLls and setting the headerExt field in the AMD\_PDU to tsc\_HE\_Ll\_AndE\_Bit.Note that use of these constraints ensures that that the fields lenInd15\_1, lenInd15\_2, and lenInd15\_3 are omitted.
- 3. Contains 1 to 3 fifteen bit length indicators, by using one of the constraints c\_Lls1\_15BitLl, c\_Lls2\_15BitLls, or c\_Lls3\_15BitLls, and setting the headerExt field in the AMD\_PDU to tsc\_HE\_Ll\_AndE\_Bit. Note that use of these constraints ensures that that the fields lenInd7\_1, lenInd7\_2, and lenInd7\_3 are omitted.

When receiving an AMD PDU, the SS is responsible for the following:

- 1. Examining the headerExt field in the AMD PDU header to decide if any length indicators are present.
- 2. Deciding whether 7 or 15 bit length indicators are being used for received PDUs based on the currently configured RLC PDU size.
- 3. Examining the E-bit following each LI that is present to determine if any further LIs are present. If more than 3 resp. 5 LIs are present, a test case error shall be reported, and the test suite will need to be updated to support more than 3 resp. 5 length indicators.
- 4. Passing the received LI group back to the TTCN in such a way that it will match one of the following constraints:
- c\_LIsEmpty
- c\_LIs1\_7BitLI
- c\_Lls2\_7BitLls
- c\_Lls3\_7BitLls
- c\_LIs5\_7BitLIs
- c\_LIs1\_15BitLI c\_LIs2\_15BitLIs
- c\_Lls3\_15BitLls

Reference 3G TS 25.322 clause 9.2.2.8

| Element Name | Type Definition  | Field Encoding | Comments |
|--------------|------------------|----------------|----------|
| lenInd7_1    | LenInd7AndE_Bit  |                |          |
| lenInd7_2    | LenInd7AndE_Bit  |                |          |
| lenInd7_3    | LenInd7AndE_Bit  |                |          |
| lenInd7_4    | LenInd7AndE_Bit  |                |          |
| lenInd7_5    | LenInd7AndE_Bit  |                |          |
| lenInd15_1   | LenInd15AndE_Bit |                |          |

Continued on next page

Continued from previous page

| Structured Type Definition |                  |                |          |
|----------------------------|------------------|----------------|----------|
| Element Name               | Type Definition  | Field Encoding | Comments |
| lenInd15_2                 | LenInd15AndE_Bit |                |          |
| lenInd15_3                 | LenInd15AndE_Bit |                |          |
| Detailed Comments :        |                  |                |          |

**Structured Type Definition** 

Type Name : LocAreald\_v

**Encoding Variation:** 

Comments : Location Area Identification Value

3G TS 24.008 cl. 10.5.1.3

| Element Name | Type Definition | Field Encoding | Comments                |
|--------------|-----------------|----------------|-------------------------|
| plmn         | OCTETSTRING[3]  |                | MCC + MNC 3 digits each |
| lac          | OCTETSTRING[2]  |                | LAC                     |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : LocUpdType

**Encoding Variation:** 

Comments : Location Updating Type

3G TS 24.008 cl. 10.5.3.5

| Type Definition | Field Encoding | Comments               |
|-----------------|----------------|------------------------|
| B1              |                | Follow-On Request      |
| B1              |                |                        |
| B2              |                | Location Updating Type |
|                 | B1<br>B1       | B1<br>B1               |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : MM\_MS\_Identity

**Encoding Variation:** 

Comments : Mobile Identity

3G TS 24.008 cl. 10.5.1.4

| Element Name | Type Definition | Field Encoding | Comments              |
|--------------|-----------------|----------------|-----------------------|
| iei          | IEI8            |                | '00010111'B           |
| iel          | Length          |                |                       |
| iDigit1      | B4              |                | 1st identitity digit  |
| oddEvenInd   | B1              |                | Odd/even indicator    |
| typeOfld     | В3              |                | Type of identity      |
| otherDigits  | OCTETSTRING[08] |                | Other identity digits |

Detailed Comments: Maximum number of digits is 16 (IMEISV). Filler may be used.

Type Name : MSRadioAccessCap\_lv

**Encoding Variation:** 

Comments

: MS radio access capability 3GPP 24.008 / 10.5.5.12a

| Element Name | Type Definition         | Field Encoding | Comments                   |
|--------------|-------------------------|----------------|----------------------------|
| iel<br>value | Length OCTETSTRING[050] |                | MS radio access capability |
|              |                         |                | value (CSN.1 coding)       |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : MS\_Clsmk1

**Encoding Variation:** 

Comments : Mobile Station Classmark 1

3G TS 24.008 cl. 10.5.1.5

| Element Name        | Type Definition | Field Encoding | Comments                 |
|---------------------|-----------------|----------------|--------------------------|
| spare1              | B1              |                | Spare bit                |
| revLvI              | B2              |                | Revision Level           |
| eSIND               | B1              |                | Early Sending Indication |
| a5_1                | B1              |                | Algorithm A5/1 supported |
| rFPwrCap            | B3              |                | RF Power Capability      |
| Datailed Comments : |                 |                | -                        |

Type Name : MS\_Clsmk2

**Encoding Variation:** 

: Mobile Station Classmark 2 3G TS 24.008 cl. 10.5.1.6 Comments

| Element Name | Type Definition | Field Encoding | Comments                             |
|--------------|-----------------|----------------|--------------------------------------|
| iei          | IEI8            |                |                                      |
| iel          | Length          |                |                                      |
| spare1_1     | B1              |                | Spare bit                            |
| revLvI       | B2              |                | Revision Level                       |
| eSIND        | B1              |                | Early Sending Indication             |
| a5_1         | B1              |                | Algorithm A5/1 Support               |
| rFPwrCap     | B3              |                | RF Power Capability                  |
| spare1_2     | B1              |                | Spare bit                            |
| pSCap        | B1              |                | Pseudo Synchronisation<br>Capability |
| sSSI         | B2              |                | SS Screen Indicator                  |
| sMCap        | B1              |                | Short Message Capability             |
| vBS          | B1              |                | VBS Capability                       |
| vGCS         | B1              |                | VGCS Capability                      |
| fC           | B1              |                | Frequency Capability                 |
| cM3          | B1              |                | Classmark 3 Indicator                |
| spare1_3     | B1              |                | Spare bit                            |
| ICSVA        | B1              |                | LCS VA Capability                    |
| uCS2         | B1              |                | UCS2 Encoding Support                |
| soLSA        | B1              |                | SoLSA Support                        |
| cMSP         | B1              |                | CM Service Prompt Support            |
| a5_3         | B1              |                | Algorithm A5/3 Support               |
| _            |                 | 1              | Algorithm A5/2 Support               |

Type Name : MS\_Clsmk2\_lv

**Encoding Variation:** 

Comments : Mobile Station Classmark 2

3G TS 24.008 cl. 10.5.1.6

| Type Definition | Field Encoding  | Comments   |
|-----------------|---|--|
| Length          |   |  |
| B1              |   | Spare bit  |
| B2              |   | Revision Level   |
| B1              |   | Early Sending Indication   |
| B1              |   | Algorithm A5/1 Support   |
| B3              |   | RF Power Capability  |
| B1              |   | Spare bit  |
| B1              |   | Pseudo Synchronisation Capability  |
| B2              |   | SS Screen Indicator  |
| B1              |   | Short Message Capability   |
| B1              |   | VBS Capability   |
| B1              |   | VGCS Capability  |
| B1              |   | Frequency Capability   |
| B1              |   | Classmark 3 Indicator  |
| B1              |   | Spare bit  |
| B1              |   | LCS VA Capability  |
| B1              |   | UCS2 Encoding Support  |
| B1              |   | SoLSA Support  |
| B1              |   | CM Service Prompt Support  |
| B1              |   | Algorithm A5/3 Support   |
| B1              |   | Algorithm A5/2 Support   |
|                 | Length B1 B2 B1 B3 B1 B3 B1 B1 B1 B2 B1 | Length B1 B2 B1 B1 B3 B1 B1 B1 B2 B1 |

**Detailed Comments:** 

# **Structured Type Definition**

Type Name : MS\_Identity\_lv

**Encoding Variation:** 

Comments : Mobile Identity LV

3G TS 24.008 cl. 10.5.1.4

| Element Name  | Type Definition | Field Encoding | Comments              |
|---|-----------------|----------------|-----------------------|
| iel   | Length          |                |                       |
| iDigit1   | B4              |                | 1st identitity digit  |
| oddEvenInd  | B1              |                | Odd/even indicator    |
| typeOfld  | B3              |                | Type of identity      |
| otherDigits   | OCTETSTRING[08] |                | Other identity digits |
| Detailed Comments : Maximum number of digits is 16 (IMEISV). Filler may be used |                 |                |                       |

Type Name : MS\_NetworkCap\_lv

**Encoding Variation:** 

Comments : MS network capabilityt LV

3GPP 24.008 / 10.5.5.12

| Element Name | Type Definition        | Field Encoding | Comments                                   |
|--------------|------------------------|----------------|--|
| iel<br>value | Length OCTETSTRING[08] |                | MS network capability value (CSN.1 coding) |
|              |                        |                | (CSN.1 coding)                             |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : MS\_NetworkCap\_tlv

**Encoding Variation:** 

Comments : MS network capabilityt T LV

3GPP 24.008 / 10.5.5.12

| Element Name        | Type Definition | Field Encoding | Comments                                   |
|---------------------|-----------------|----------------|--|
| iei                 | IEI8            |                | '00110001'B (hex 31)                       |
| iel                 | Length          |                |  |
| value               | OCTETSTRING[08] |                | MS network capability value (CSN.1 coding) |
| Detailed Comments : | •               | •              |  |

Detailed Comments:

**Structured Type Definition** 

Type Name : NSAPI\_v

**Encoding Variation:** 

**Comments** : 24.007, clause 10.5.6.2

| Element Name | Type Definition | Field Encoding | Comments    |
|--------------|-----------------|----------------|-------------|
| spare        | B4              |                |             |
| nSAPI_Value  | B4              |                | NSAPI value |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : NtwFeatureSupport\_tv

**Encoding Variation:** 

**Comments**: Network Feature Support

3G TS 24.008 cl. 10.5.5.23

| Element Name        | Type Definition | Field Encoding | Comments         |
|---------------------|-----------------|----------------|------------------|
| iei                 | IEI4            |                | '1011'B (B- hex) |
| ICS_MOLR            | B1              |                |                  |
| spare3              | B3              |                |                  |
| Patrillad Community |                 |                |                  |

Type Name : PDP\_ContextStatus

**Encoding Variation:** 

Comments : PDP\_ContextStatus

3G TS 24.008 cl. 10.5.7.1

| Element Name | Type Definition | Field Encoding | Comments    |
|--------------|-----------------|----------------|-------------|
| iei          | IEI8            |                | '00110010'B |
| iel          | Length          |                |             |
| nSAPI        | BITSTRING[16]   |                |             |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : PLMN\_List

**Encoding Variation:** 

Comments : PLMN list

3G TS 24.008 cl. 10.5.1.13

| Element Name | Type Definition | Field Encoding | Comments     |
|--------------|-----------------|----------------|--------------|
| iei          | IEI8            |                | '01001010''B |
| iel          | Length          |                |              |
| plmn1        | OCTETSTRING[3]  |                | PLMN 1       |
| plmn2        | OCTETSTRING[3]  |                | PLMN 2       |
| plmn3        | OCTETSTRING[3]  |                | PLMN 3       |
| plmn4        | OCTETSTRING[3]  |                | PLMN 4       |
| plmn5        | OCTETSTRING[3]  |                | PLMN 5       |
|              |                 |                |              |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : PS\_LCS\_Capability

**Encoding Variation:** 

**Comments** : PS LCS Capability

3GPP 24.008 / 10.5.5.22

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| iei          | IEI8            |                | '00110011'B (33 hex) |
| iel          | Length          |                | '01'O                |
| spare        | В3              |                |                      |
| oTD_A        | B1              |                |                      |
| oTD_B        | B1              |                |                      |
| gPS_A        | B1              |                |                      |
| gPS_B        | B1              |                |                      |
| gPS_C        | B1              |                |                      |

Type Name : PTMSI\_Signature

**Encoding Variation:** 

**Comments** : P-TMSI signature

3GPP 24.008 / 10.5.5.8

| Element Name | Type Definition | Field Encoding | Comments               |
|--------------|-----------------|----------------|------------------------|
| iei          | IEI8            |                | '00011001'B (19 hex)   |
| value        | OCTETSTRING[3]  |                | P-TMSI signature value |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : PTMSI\_Signature\_tlv

**Encoding Variation:** 

Comments : P-TMSI signature

3GPP 24.008 / 10.5.5.8

| Type Definition | Field Encoding | Comments               |
|-----------------|----------------|------------------------|
| IEI8            |                | '00011001'B (19 hex)   |
| Length          |                |                        |
| OCTETSTRING[3]  |                | P-TMSI signature value |
|                 | IEI8<br>Length | IEI8<br>Length         |

**Detailed Comments:** 

| Structure | d Type | Definition   |
|-----------|--------|--------------|
| Judelaie  | u ivbe | Dellillinoll |

Type Name : PktDataProtoAddr\_lv

**Encoding Variation:** 

**Comments** : 24.007, clause 10.5.6.4

| Element Name | Type Definition | Field Encoding | Comments              |
|--------------|-----------------|----------------|-----------------------|
| length       | Length          |                |                       |
| spare        | B4              |                |                       |
| pDP_TypeOrg  | B4              |                | PDP type organisation |
| pDP_TypeNo   | PDP_TypeNo      |                | PDP type number       |
| addrInfo     | AddressInfo     |                | Address Information   |

Type Name : ProtoCfgOpt

**Encoding Variation:** 

**Comments** : 24.007, clause 10.5.6.3

| Element Name       | Type Definition | Field Encoding | Comments   |
|--------------------|-----------------|----------------|--|
| iei                | IEI8            |                | '00101000'B (27hex)                                  |
| length             | Length          |                |  |
| ext                | B1              |                | extension bit  |
| spare              | B4              |                |  |
| configprotocol     | B3              |                | configuration protocol                               |
| protocolldContents | ProtoldContents |                | information related to additional external protocols |

Type Name : QualityOfService\_lv

**Encoding Variation:** 

Comments : 24.008, clause 10.5.6.5

| Element Name        | Type Definition | Field Encoding | Comments                                    |
|---------------------|-----------------|----------------|---|
| ength               | Length          |                |   |
| spare               | B2              |                |   |
| dlyClass            | B3              |                | Delay Class                                 |
| relabilityClass     | B3              |                | Reliability Class                           |
| peakThroughput      | B4              |                | Peak Throughput                             |
| spare1              | B1              |                |   |
| precedenceClass     | B3              |                | Precedence Class                            |
| spare2              | B3              |                |   |
| meanThroughput      | B5              |                | Mean Throughput                             |
| trafficClass        | B3              |                | Traffic Class                               |
| deliveryOrder       | B2              |                | Delivery Order                              |
| deliveryErrorSDU    | B3              |                | Delivery of erroneous SDU                   |
| maxSDUSize          | MaxSDU_Size     |                | Maximum SDU Size                            |
| maxBitRateUplink    | MaxBitRate      |                | Maximum Bit Rate for Uplink                 |
| maxBitRateDnlink    | MaxBitRate      |                | Maximum Bit Rate for Downlink               |
| residualBER         | B4              |                | Residual BER                                |
| sduErrRatio         | B4              |                | SDU Error Ratio                             |
| transDly            | B6              |                | Transfer Delay                              |
| trafficHandpro      | B2              |                | Traffic Handling Priority                   |
| bitRateUplink       | BitRate         |                | Guaranteed bit rate for uplink              |
| bitRateDnlink       | BitRate         |                | Guaranteed bit rate for downlink            |
| spare3              | B3              |                |   |
| signallingInd       | B1              |                | Signalling Indication                       |
| srcStatsDescr       | B4              |                | Source Statistics Descriptor                |
| maxBitRateDnlinkExt | BitRate         |                | Maximum bit rate for downlink (extended)    |
| bitRateDnlinkExt    | BitRate         |                | Guaranteed bit rate for downlink (extended) |

| Structured |  |
|------------|--|
|            |  |
|            |  |
|            |  |

Type Name : RAI\_v

**Encoding Variation:** 

Comments : Routing Area Identification 3GPP 24.008 / 10.5.5.15

| Element Name        | Type Definition | Field Encoding | Comments                |
|---------------------|-----------------|----------------|-------------------------|
| plmn                | OCTETSTRING[3]  |                | MCC + MNC 3 digits each |
| lac                 | OCTETSTRING[2]  |                | LAC                     |
| rac                 | OCTETSTRING[1]  |                | RAC                     |
| Patrillad Community |                 |                |                         |

Type Name : RadioPriority\_v

**Encoding Variation:** 

Comments : Radio priority

3GPP 24.008 / 10.5.7.2

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| spare        | B1              |                |                      |
| value        | B3              |                | Radio priority value |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : RadioPriority2\_v

**Encoding Variation:** 

**Comments** : Radio priority 2

3GPP 24.008 / 10.5.7.5

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| spare        | B1              |                |                      |
| value        | B3              |                | Radio priority value |
|              |                 |                |                      |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : RepeatInd

**Encoding Variation:** 

**Comments** : Repeat indicator

3G TS 24.008 cl. 10.5.4.22

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| iei          | IEI4            |                |          |
| repeatInd    | B4              |                |          |

**Detailed Comments:** 

### **Structured Type Definition**

Type Name : ResAndSUFIs

**Encoding Variation:** 

**Comments**: This type is used as type of the RETURN value of TSO o\_SUFI\_Handler which provides:

- a BOOLEAN result

- a SUFI List of type SuperFields

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| result       | BOOLEAN         |                | 1        |
| sUFI_ListRec | SuperFields     |                | 2        |

**Detailed Comments**: 1. overall result of the operation of TSO o\_SUFI\_Handler

2. Super Fields received and transferred into the SuperFields structure according to the rules

specified in TSO o\_SUFI\_Handler

Type Name : SM\_Cause\_v

**Encoding Variation:** 

**Comments** : Ref 24.008, 10.5.6.6

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| causeValue   | CauseValue      |                |          |

**Detailed Comments:** 

## **Structured Type Definition**

Type Name : SNiLiPair

Encoding Variation:
Comments:

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| sNi          | AM_SeqNum       |                |          |
| li           | SUFI_ListLi     |                |          |

**Detailed Comments:** 

## **Structured Type Definition**

Type Name : SS\_VersionInd

**Encoding Variation:** 

**Comments** : SS version indicator

3G TS 24.008 cl. 10.5.4.24

| Element Name   | Type Definition | Field Encoding | Comments   |
|----------------|-----------------|----------------|--|
| iei            | IEI8            |                | information element<br>identifier<br>'01111111'B |
| iel            | Length          |                | length   |
| sS_VersionInfo | OCTETSTRING [1] |                | ss version information 1.                        |

**Detailed Comments**: 1. Usually this IE has only one octet of content.

Exact definition see TS 24.080

## **Structured Type Definition**

Type Name : SUFI\_Ack

**Encoding Variation:** 

Comments : Acknowledgement super field. Ref 3G TS 25.322 clause 9.2.2.11.2. The ACK SUFI shall always be

placed as the last SUFI if it is included in a STATUS PDU.

| Element Name | Type Definition | Field Encoding | Comments            |
|--------------|-----------------|----------------|---------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_Ack |
| Isn          | AM_SeqNum       |                | 1.                  |

Detailed Comments: 1. Acknowledges the reception of all PDUs with sequence numbers < LSN that are not indicated

to be erroneous in earlier parts of the STATUS PDU.

Type Name : SUFI\_Bitmap

**Encoding Variation:** 

Comments : Bitmap super field. Ref 3G TS 25.322 clause 9.2.2.11.5

| Element Name | Type Definition | Field Encoding | Comments               |
|--------------|-----------------|----------------|------------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_Bitmap |
| len          | BitmapLen       |                | 1.                     |
| fsn          | AM_SeqNum       |                | 2.                     |
| bitmap       | Bitmap          |                | 3.                     |

Detailed Comments: 1. The size of the bitmap in octets = len+1. len='0000'B means that the bitmap is one octet, and

len='1111'B means that the bitmap is the maximum size of 16 octets

2. The sequence number for the first bit in the bitmap.

3. Status of the SNs in the interval [ FSN, FSN + ( len + 1 ) \* 8 –1 ] where each bit\_position can

take on the following values:-

\* '1'B indicates that FSN + bit\_position has been correctly received \* '0'B indicates that FSN + bit\_position has not been correctly received

## **Structured Type Definition**

Type Name : SUFI\_List

**Encoding Variation:** 

Comments : List super field. Ref 3G TS 25.322 clause 9.2.2.11.4

This type definition assumes that a maximum of 3 (SNi, Li) pairs will be required for RLC test

purposes.

| Element Name | Type Definition | Field Encoding | Comments             |
|--------------|-----------------|----------------|----------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_List |
| len          | LIST_Len        |                | 1.                   |
| sN1L1        | SNiLiPair       |                | 2.                   |
| sN2L2        | SNiLiPair       |                | 2.                   |
| sN3L3        | SNiLiPair       |                | 2.                   |

**Detailed Comments**: 1. The number of (SNi, Li) pairs in the super field.

2. SNi: Sequence number of PDU which was not correctly received; Li: The number of consecutive PDUs not correctly received following PDU with sequence number SNi.

Type Name : SUFI\_MRW

**Encoding Variation:** 

Comments : Move receiving window super field. Ref 3G TS 25.322 clause 9.2.2.11.8

This type definition assumes that a maximum of three SN\_MRWi will be required for RLC testing.

| Element Name | Type Definition | Field Encoding | Comments            |
|--------------|-----------------|----------------|---------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_MRW |
| len          | MRW_Len         |                | 1.                  |
| sN_MRW1      | SUFI_SN_MRWi    |                | 2.                  |
| sN_MRW2      | SUFI_SN_MRWi    |                | 2.                  |
| sN_MRW3      | SUFI_SN_MRWi    |                | 2.                  |
| nLength      | N_Length        |                | 3.                  |

**Detailed Comments**: 1. The number of SN\_MRWi fields in the super-field.

2. Each SN\_MRWi is used to indicate the end of each discarded SDU. SN\_MRWi is the sequenec

number of the PDU that contains the LI of the i:th discarded SDU.

3. nLength is used together with SN\_MRW\_Length to indicate the end of the last discarded SDU

#### **Structured Type Definition**

Type Name : SUFI\_MRW\_ACK

**Encoding Variation:** 

Comments : Move receiving window acknowledgement super field. Ref 3G TS 25.322 clause 9.2.2.11.7

| Element Name | Type Definition | Field Encoding | Comments                   |
|--------------|-----------------|----------------|----------------------------|
| type         | SUFI_Type       |                | Always<br>tsc_SUFI_MRW_ACK |
| n            | N_Length        |                | 1.                         |
| sN_ACK       | AM_SeqNum       |                | 2.                         |

Detailed Comments: 1. The N field shall be set equal to the N\_Length field in the received MRW SUFI if the SN\_ACK

field is equal to the SN\_MRW\_Length field. Otherwise N shall be set to 0.

2. The SN\_ACK field indicates the updated value of VR(R) after the reception of the MRW SUFI.

### **Structured Type Definition**

Type Name : SUFI\_NoMore

**Encoding Variation:** 

Comments : No more data super field. Ref 3G TS 25.322 clause 9.2.2.11.1

| Element Name | Type Definition | Field Encoding | Comments               |
|--------------|-----------------|----------------|------------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_NoMore |

Type Name : SUFI\_Params

**Encoding Variation:** 

Comments : This type is a list of parameters to be used as input for TSO o\_SUFI\_Handler which treats a

HEXSTRING containing received SUFIs.

Refer to this TSO and the description of the test methodolgy.

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| LB           | AM_SeqNum       |                | 1        |
| UB           | AM_SeqNum       |                | 1        |
| WSN_presence | BOOLEAN         |                | 1        |
| MRW_presence | BOOLEAN         |                | 1        |
| Nack1        | AM_SeqNum       |                | 1        |
| Nack2        | AM_SeqNum       |                | 1        |
| Nack3        | AM_SeqNum       |                | 1        |

Detailed Comments: 1....

## **Structured Type Definition**

Type Name : SUFI\_RList

**Encoding Variation:** 

Comments : Relative list super field. Ref 3G TS 25.322 clause 9.2.2.11.6

This type definition assumes that a maximum of three codewords will be required for RLC testing

| Element Name | Type Definition | Field Encoding | Comments              |
|--------------|-----------------|----------------|-----------------------|
| type         | SUFI_Type       |                | Always tsc_SUFI_RList |
| len          | RLIST_Len       |                | 1.                    |
| fsn          | AM_SeqNum       |                | 2.                    |
| CW1          | CodeWord        |                | 3.                    |
| CW2          | CodeWord        |                | 3.                    |
| CW3          | CodeWord        |                | 3.                    |

**Detailed Comments**: 1. The number of codewords in the super-field

2. The sequence number of the first erroneous PDU in the RLIST. Note that len =  $^{\prime}0000^{\circ}B$  means

that only FSN is present in the SUFI.

3. Each CW consists of 4 bits where the first three bits are part of a number, and the last bit is a

status indicator. see 3G TS 25.25.322 clause 9.2.2.11.6 for a detailed description.

#### **Structured Type Definition**

Type Name : SUFI\_WindowSize

**Encoding Variation:** 

Comments: Window size super field. Ref 3G TS 25.322 clause 9.2.2.11.3

| Element Name   | Type Definition | Field Encoding | Comments                      |  |
|--|-----------------|----------------|-------------------------------|--|
| type   | SUFI_Type       |                | Always<br>tsc_SUFI_WindowSize |  |
| wsn  | BITSTRING[12]   |                | 1.                            |  |
| Partition of the state of the s |                 |                |                               |  |

**Detailed Comments**: 1. The allowed Tx window size to be used by the transmitter.

Type Name : ServiceType\_v

**Encoding Variation:** 

Comments : Service type

3GPP 24.008 / 10.5.5.20

 Element Name
 Type Definition
 Field Encoding
 Comments

 spare1
 B1
 type
 type

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : Streamld

**Encoding Variation:** 

**Comments**: stream identifier

3G TS 24.008 cl. 10.5.4.28

| Element Name        | Type Definition | Field Encoding | Comments                                   |
|---------------------|-----------------|----------------|--|
| iei                 | IEI8            |                | information element identifier '00101101'B |
| iel                 | Length          |                | length                                     |
| val                 | B8              |                | stream identifier value                    |
| Datailed Comments : |                 |                |  |

Detailed Comments:

**Structured Type Definition** 

Type Name : Subadrs

**Encoding Variation:** 

Comments : Subaddress

3G TS 24.008 cl. 10.5.4.8, 10.5.4.10, 10.5.4.14

| Element Name  | Type Definition   | Field Encoding | Comments               |
|---------------|-------------------|----------------|------------------------|
| extBit        | B1                |                | extension bit          |
| typrOfSubadrs | B3                |                | Type of subaddress     |
| oddEven       | B1                |                | odd/even indicator     |
| spare3        | B3                |                | 3 spare bits           |
| subadrsInfo   | OCTETSTRING [020] |                | subaddress information |
|               |                   |                |                        |

Type Name : SuperFields

**Encoding Variation:** 

Comments : This type is used to represent the set of super-fields within a STATUS PDU. Ref 3G TS 25.322

clause 9.2.1.5.

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| windowSize   | SUFI_WindowSize |                | 1        |
| list         | SUFI_List       |                | 1        |
| rList        | SUFI_RList      |                | 1        |
| bitmap       | SUFI_Bitmap     |                | 1        |
| mRW          | SUFI_MRW        |                | 1        |
| mRW_Ack      | SUFI_MRW_ACK    |                | 1        |
| noMore       | SUFI_NoMore     |                | 2        |
| ack          | SUFI_Ack        |                | 2, 3     |

**Detailed Comments**: 1. These super fields may arrive in any order, and may or may not be present. This type definition

only supports a single super–field, followed by either a NO\_MORE SUFI, or an ACK SUFI.

2. The NO\_MORE SUFI, and the ACK SUFI are mutually exclusive, and should never both be

present in the same STATUS PDU.

3. The ACK SUFI is used to acknowledge reception of all PDUs up to LSN, EXCEPT for any

PDUs indicated as incorrectly received in the previous SUFIs.

### **Structured Type Definition**

Type Name : TI Encoding Variation :

**Comments**: Transaction identifier

3G TS 24.007 cl. 11.2.3.1.3

| Element Name | Type Definition | Field Encoding | Comments |
|--------------|-----------------|----------------|----------|
| tiFlag       | B1              |                | Flag     |
| tiVal        | В3              |                | TIO      |
|              |                 |                |          |

**Detailed Comments:** 

### **Structured Type Definition**

Type Name : TMSI\_Status

**Encoding Variation:** 

Comments : TMSI status

3GPP 24.008 cl. 10.5.5.4

| Element Name        | Type Definition | Field Encoding | Comments |
|---------------------|-----------------|----------------|----------|
| iei                 | IEI4            |                | '1001'B  |
| spare3              | В3              |                |          |
| flag                | B1              |                | Flag     |
| Detailed Comments : |                 |                |          |

Type Name : TearDwnInd\_tv

**Encoding Variation:** 

**Comments** : Ref 24.008, clause 10.5.6.10

| Type Definition | Field Encoding | Comments        |
|-----------------|----------------|-----------------|
| IEI4            |                | '1001'B (9 hex) |
| B3              |                |                 |
| B1              |                | TDI Flag        |
|                 | IEI4<br>B3     | IEI4<br>B3      |

Detailed Comments:

## **Structured Type Definition**

**Type Name**: TypeOfNumPlan

**Encoding Variation:** 

**Comments**: Type of number and numbering plan

3G TS 24.008 cl.10.5.4.7, 10.5.4.9, 10.5.4.13

| Element Name | Type Definition | Field Encoding | Comments           |
|--------------|-----------------|----------------|--------------------|
| extBit       | B1              |                | extension bit      |
| typeOfNum    | B3              |                | Type of number     |
| numbPlanId   | B4              |                | Numbering plan id. |

**Detailed Comments:** 

## **Structured Type Definition**

Type Name : UE\_TestLoopMode1LB\_Setup

**Encoding Variation:** 

Comments : UE Test Loop Mode 1 LB Setup 3G TS 34.109 cl. 6.2

| Element Name   | Type Definition | Field Encoding | Comments          |
|----------------|-----------------|----------------|-------------------|
| iel            | Length          |                | length            |
| IB_SetupRB_IE1 | LB_SetupRB_IE   |                | LB Setup RB IE #1 |
| IB_SetupRB_IE2 | LB_SetupRB_IE   |                | LB Setup RB IE #2 |
| IB_SetupRB_IE3 | LB_SetupRB_IE   |                | LB Setup RB IE #3 |
| IB_SetupRB_IE4 | LB_SetupRB_IE   |                | LB Setup RB IE #4 |
| IB_SetupRB_IE5 | LB_SetupRB_IE   |                | LB Setup RB IE #5 |
|                |                 |                |                   |

**Detailed Comments**: The maximum number of LB entities in the LB setup list is less than or equal to 5.

Type Name : UpdateType\_v

**Encoding Variation:** 

Comments : Update result

3GPP 24.008 / 10.5.5.18

| Element Name | Type Definition | Field Encoding | Comments          |
|--------------|-----------------|----------------|-------------------|
| for          | B1              |                | Follow-on request |
| value        | B3              |                | Update type value |
| value        | B3              |                | Update type value |

**Detailed Comments:** 

**Structured Type Definition** 

Type Name : UserUser

**Encoding Variation:** 

Comments : User-user

3G TS 24.008 cl. 10.5.4.25

| Element Name          | Type Definition    | Field Encoding | Comments                                  |
|-----------------------|--------------------|----------------|---|
| iei                   | IEI8               |                | information element identifier 01111110'B |
| iel                   | Length             |                | length                                    |
| userUserProtocolDiscr | B8                 |                | user–user protocol<br>discriminator       |
| userUserInfo          | OCTETSTRING [1128] |                | user user information                     |

Detailed Comments: In SETUP, ALERTING, CONNECT, DISCONNECT, RELEASE and RELEASE COMPLETE

messages the userUserInfo length is of 0 - 32 bytes.

In USER INFORMATION messages the userUserInfo length is of 1 – 128.

Type Name : RB\_ConfigType

**Encoding Variation:** Comments

#### **Type Definition**

```
ENUMERATED {
cell_NotConfigured (0),
  - Configurations on DPCH
 cell_DCH_StandAloneSRB_NoConn (1),
 cell_NoDPCH (2),
 cell_DCH_StandAloneSRB (3),
 cell_DCH_Speech (4),
 cell_DCH_64kCS_RAB_SRB (5)
cell_DCH_57_6kCS_RAB_SRB (6),
cell_DCH_64kPS_RAB_SRB (7),
 cell_RLC_DCH_AM_RAB_15Lis (8),
 cell_RLC_DCH_AM_RAB_7Lis (9),
 cell_RLC_DCH_UM_RAB_15Lis (10),
 cell_RLC_DCH_UM_RAB_7Lis (11),
 cell_PDCP_AM_RAB (12),
 cell_PDCP_UM_RAB (13),
 cell_PDCP_AM_UM_RAB (14),
 cell_DCH_MAC_SRB_NoConn (15),
 cell_DCH_MAC_SRB (16),
cell_DCH_2AM_PS (17),
 -- Configurations on FACH
 cell_FACH_NoConn (18),
 cell_FACH (19),
 cell_FACH_NoDedicated (20),
 cell_FACH_PS (21),
 cell FACH BMC (22),
 cell_FACH_BMC_NoConn (23),
 cell_FACH_2_PRACH_NoConn (24), --no RAB
 cell_FACH_2_PRACH (25), -- no RAB
 cell_FACH_2_SCCPCH_NoConn (26), --used in BMC
 cell_FACH_2_SCCPCH (27), --Used in BMC
 cell_FACH_MAC_SRB_NoConn (28),
 cell_FACH_MAC_SRB (29),
cell_FACH_MAC_SRB0_NoConn (30), cell_FACH_MAC_SRB0 (31),
 -- Configurations for RAB test cases
 -- for these configuarations Security step does not handle RAB eastablished situation, as in RAB test procedure
 -- Security procedure is called before RAB establishment
 cell_FACH_2SCCPCH_StandAlonePCH_NoConn (32),
cell_FACH_2SCCPCH_StandAlonePCH (33),
 cell FACH 2SCCPCH StandAlonePCH PS (34),
 cell_Two_DTCH (35),
 cell_Four_DTCH_CS (36),
 cell_Two_DTCH_CS_PS (37),
 cell_Four_DTCH_CS_PS (38),
 cell_FACH_3_SCCPCH_4_FACH_Cnfg1_NoConn (39),
 cell_FACH_3_SCCPCH_4_FACH_Cnfg1 (40),
 cell_FACH_3_SCCPCH_3_FACH_CTCH_NoConn (41),
 cell_FACH_3_SCCPCH_3_FACH_CTCH (42),
 cell_Two_DTCH_PS_CS (43),
cell_Four_DTCH_PS_CS (44)
 cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoConn (45),
 cell_FACH_3_SCCPCH_4_FACH_Cnfg2 (46),
 cell_DCH_2_PS_Call(47)

    Configurations for DSCH RAB test cases

cell_DCH_DSCH_PS (48)
 cell_DCH_DSCH_CS_PS (49),
 cell_FACH_2SCCPCH_StandAlonePCH_PS_2a(50),
```

Continued on next page

```
ASN.1 Type Definition
                                             Type Definition
cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_NoConn (51),
 cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1 (52),
cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_NoConn (53),
 cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2 (54),
cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_NoConn (55),
 cell_FACH_3_SCCPCH_3_FACH_2a_CTCH (56),
 cell_Two_DTCH_CS_PS_Init (57),
cell_Four_DTCH_CS_PS_Init (58),
cell_FACH_2SCCPCH_StandAlonePCH_2a_NoConn (59),
cell_FACH_2SCCPCH_StandAlonePCH_2a (60),
cell_Two_DTCH_PS_CS_Init (61),
 cell_Four_DTCH_PS_CS_Init (62),
 cell_DCH_HS_DSCH(63),
 cell_FACH_HS(64),
cell_DCH_64kPS_RAB_SRB_HS(65),
cell_One_DTCH_HS_DSCH_MAC(66),
 cell_5_UM_DCH_HS_DSCH (67),
cell_DCH_Speech_WAMR (68),
cell_Four_DTCH_HS_CS_Init (69),
cell_Four_DTCH_HS_CS (70),
cell_Two_DTCH_HS_CS_Init (71),
 cell_Two_DTCH_HS_CS (72),
cell_Four_DTCH_CS_HS_Init (73),
 cell_DCH_2AM_HS_DSCH (74)
Detailed Comments:
```

```
ASN.1 Type Definition

Type Name : AICHInfo
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
    aichinfo AICH_Info,
    dI_TxPower AICH_PowerOffset
}

Detailed Comments :
```

Type Name : AmConfirmationRequest

**Encoding Variation:** 

Comments : If the noConfirmationRequested option is used, then an RLC\_AM\_DATA\_CNF is not expected

from the RLC AM entity.

If the confirmationRequested option is used, then the RLC AM entity is being requested to provide

an RLC\_DATA\_CNF primitive containing the same mui value.

**Type Definition** 

CHOICE {

noConfirmationRequest NULL, confirmationRequested Mui

}

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : COUNT\_I\_MSB

**Encoding Variation:** 

Comments : 28 bits long

**Type Definition** 

INTEGER (0..268435455)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : CellTxPowerLevel

**Encoding Variation:** 

Comments: The defaultCellTxPowerLvl is a default setting and is used for the most signalling tests. The real total

cell DL Tx power level equals to the sum of the DL Tx power of the individual physical channels

configured.

The totalCellTxPowerLvl applies to e.g. the idle mode tests in a non-default multi-cell radio

environment.

**Type Definition** 

CHOICE

defaultCellTxPowerLvl NULL, totalCellTxPowerLvl DL\_TxPower

Type Name : CiphActivationInfo

**Encoding Variation:** 

**Comments**: DL or UL ciphering activation infolf RB is omitted in rB\_UL\_CiphActivationTimeInfo the SS takes

no action on this RB and the ciphering configuration keeps unchanged on this RB.

CipheringModeCommand = dummy NULL means no ciphering.

#### **Type Definition**

CHOICE {

cipheringModeInfo CipheringModeInfo,

 $rb\_UL\_CipheringActivationTimeInfo\ RB\_ActivationTimeInfoList$ 

}

#### **Detailed Comments:**

## **ASN.1 Type Definition**

Type Name : CmacConfigReq

**Encoding Variation:** 

**Comments**: To request to configure MAC

#### **Type Definition**

SEQUENCE {

activationTime SS\_ActivationTime,

uE\_Info UE\_Info, trCHInfo TrCHInfo,

trCH\_LogCHMapping TrCH\_LogCHMappingList1

-- RACHTransmissionCtrolElements

— CPCHTransmissionControlElements

}

#### **Detailed Comments:**

## **ASN.1 Type Definition**

Type Name : CmacPagingConfigReq

Encoding Variation:
Comments:

#### **Type Definition**

```
SEQUENCE {
```

pl\_BitMapInfo CHOICE {

e18 BIT STRING (SIZE (18)),

e36 BIT STRING (SIZE (36)),

e72 BIT STRING (SIZE (72)),

e144 BIT STRING (SIZE (144))}, dRX\_CycleLength INTEGER (3..9),

iMSI IMSI\_GSM\_MAP,

 $t\_pich\_T\_sccpch \ BOOLEAN -- T\_pich > T\_sccpch \ then \ FALSE$ 

```
ASN.1 Type Definition

Type Name : CmacSysinfoConfigReq
Encoding Variation :

Comments : if bcch_ModificationTime = OMIT SS shall modify the Sysinfo immediately

Type Definition

SEQUENCE {
    sg_REP INTEGER (2..12),
    -- Repetition period is the sg_REP-th power of 2.
    sg_POS INTEGER (0..2047),
    -- The position of each segment is 2 * sg_POS.
    bcch_ModificationTime BCCH_ModificationTime OPTIONAL
}

Detailed Comments :
```

```
ASN.1 Type Definition
Type Name
                   : CommonOrDedicatedTFS
Encoding Variation:
Comments
                   : Transport Format Set
                                                  Type Definition
SEQUENCE {
 tti CHOICE {
  tti10 CommonOrDedicatedTF_InfoList,
  tti20 CommonOrDedicatedTF_InfoList,
  tti40 CommonOrDedicatedTF_InfoList,
  tti80 CommonOrDedicatedTF_InfoList,
  dynamic\ Common Or Dedicated TF\_InfoList\_Dynamic TTI
 semistatic TF\_Information \ Semistatic TF\_Information
Detailed Comments:
```

```
ASN.1 Type Definition

Type Name : CommonOrDedicatedTF_Info
Encoding Variation :
Comments : Transport Format Set

Type Definition

SEQUENCE {
tb_Size INTEGER (0..5035),
numberOfTbSizeList SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,
logicalChannelList LogicalChannelList
}

Detailed Comments :
```

Type Name : CommonOrDedicatedTF\_InfoList

**Encoding Variation:** 

Comments : Transport Format Set

**Type Definition** 

SEQUENCE (SIZE (1..maxTF)) OF CommonOrDedicatedTF\_Info

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : CommonOrDedicatedTF\_InfoList\_DynamicTTI

Encoding Variation:
Comments:

#### **Type Definition**

SEQUENCE

tb\_Size INTEGER (0..5035),

numberOfTbSizeList SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,

logicalChannelList LogicalChannelList

}

**Detailed Comments:** 

### **ASN.1 Type Definition**

Type Name : CphyRIModifyReq

Encoding Variation : Comments :

#### **Type Definition**

SEQUENCE {

activationTime SS\_ActivationTime,

physicalChannelInfo

CHOICE {

 ${\tt dpch\_CompressedModeStatusInfo\ DPCH\_CompressedModeStatusInfo,}$ 

secondaryCCPCHInfo SecondaryCCPCHInfo,

pRACHInfo PRACHInfo,

dPCHInfo DPCHInfo,

dPCHInfo\_r5 DPCHInfo\_r5, -- Rel-5 or later

hS\_PDSCHInfo HS\_PDSCHInfo -- Rel-5 or later

}, trchC

trchConfigToFollow BOOLEAN DEFAULT TRUE

**Type Name** : CphyRISetupReq

**Encoding Variation:** 

Comments : To request to setup the Radio Link

#### **Type Definition**

```
SEQUENCE {
physicalChannelInfo CHOICE {
  primaryCPICHInfo PrimaryCPICHInfo,
  secondaryCPICHInfo SecondaryCPICHInfo,
  primarySCHInfo PrimarySCHInfo,
  secondarySCHInfo SecondarySCHInfo,
  primaryCCPCHInfo PrimaryCCPCHInfo
  secondaryCCPCHInfo SecondaryCCPCHInfo,
  pRACHInfo PRACHInfo,
  pICHInfo PICHInfo,
  alCHInfo AlCHInfo,
  dPCHInfo DPCHInfo,
  pDSCHInfo PDSCHInfo,
  dPCHInfo_r5 DPCHInfo_r5, -- Rel-5 or later
  hS_PDSCHInfo HS_PDSCHInfo -- Rel-5 or later
```

**Detailed Comments:** 

### **ASN.1 Type Definition**

**Type Name** : CphyTrchConfigReq

**Encoding Variation:** 

Comments

: To request to configure the transport channel. The same TFCS information should be provided to the PHY and MAC layers at all times. When a CPHY\_TrCH\_Config\_REQ is used to configure the PHY layer, a corresponding CMAC\_Config\_REQ should be sent to the MAC layer to ensure that the configuration is consistent.

For configuring HS-DSCH transport channel, the ulconnectedTrCHList, ulTFCS,

dlconnectedTrCHList and dlTFCS shall be omitted.

#### Type Definition

```
SEQUENCE {
activationTime SS_ActivationTime,
 ulconnectedTrCHList SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
  trchid TransportChannelIdentity,
  ul_TransportChannelType SS_UL_TransportChannelType,
  transportChannelInfo CommonOrDedicatedTFS
} OPTIONAL,
 ultfcs tfcs optional,
 dlconnectedTrCHList SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
 trchid TransportChannelIdentity
  dl_TransportChannelType SS_DL_TransportChannelType,
  transportChannelInfo CommonOrDedicatedTFS
 } OPTIONAL ,
 dITFCS TFCS OPTIONAL,
hsDSCHMacdFlows HS_DSCHMACdFlows OPTIONAL -- Rel-5 or later
```

Type Name : CrlcConfigReq

**Encoding Variation:** 

Comments : To request to setup, re\_configure or release RLC entityThe Stop parameter indicates that the RLC

entity shall not transmit or receive RLC PDUs. The Continue parameter indicates that the RLC entity shall continue transmission and reception of RLC PDUs. When the RLC entity is stopped, the RLC timers are not affected. Triggered polls and status transmissions are delayed until the RLC

entity is continued.

#### **Type Definition**

CHOICE {
 setup RBInfo,
 reconfigure RBInfo,
 release NULL,
 sS\_stop NULL,
 sS\_continue NULL

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : DL\_DPCHInfo

**Encoding Variation:** 

Comments : The range for powerOffsetOfTPC\_PO2 and powerOffsetOfTFCI\_PO1 and

powerOffsetOfPILOT\_PO3 is 0-6 dB, 0.25 dB per step.

#### **Type Definition**

#### SEQUENCE {

dl\_CommonInformation DL\_CommonInformation, dl\_DPCH\_InfoPerRL DL\_DPCH\_InfoPerRL,

powerOffsetOfTFCI\_PO1 INTEGER (0..24), powerOffsetOfTPC PO2 INTEGER (0..24),

powerOffsetOfPILOT\_PO3 INTEGER (0..24),

dl\_TxPower DL\_TxPower,

 $dl\_TxPowerMax\ DL\_TxPower,$ 

dl\_TxPowerMin DL\_TxPower

**ASN.1 Type Definition Type Name** : DL\_DPCHInfo\_r5 **Encoding Variation:** Comments : Applicable Rel-5 or later **Type Definition** SEQUENCE {  $\label{local_common_local} dl\_CommonInformation\_r5,$ dl\_DPCH\_InfoPerRL DL\_DPCH\_InfoPerRL\_r5, powerOffsetOfTFCI\_PO1 INTEGER (0..24), powerOffsetOfTPC\_PO2 INTEGER (0..24), powerOffsetOfPILOT\_PO3 INTEGER (0..24), dl\_TxPower DL\_TxPower, dl\_TxPowerMax DL\_TxPower, dl\_TxPowerMin DL\_TxPower

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : DL\_TxPower

**Encoding Variation:** 

Comments : Downlink Tx Power relative to PCPICH

**Type Definition** 

INTEGER (-35..15)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : DL\_TxPower\_PCPICH

**Encoding Variation:** 

**Comments**: Absolute Tx Power of PCPICH

Type Definition

INTEGER (-60..-30)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : DPCHInfo

**Encoding Variation:** 

Comments : The range for powerOffsetOfTPC\_PO2 and powerOffsetOfTFCI\_PO1 and

powerOffsetOfPILOT\_PO3 is 0 dB to 6 dB, 0,25 dB per step.

**Type Definition** 

SEQUENCE {

ul\_DPCHInfo UL\_DPCH\_Info OPTIONAL, dl\_DPCHInfo DL\_DPCHInfo OPTIONAL

}

Type Name : DPCHInfo\_r5

**Encoding Variation:** 

Comments : Applicable Rel-5 or later

At least one of the first two fields shall be present.

Presence of hs\_DPCCHInd (value = truevalue) means that the HS-DPCCH shall be configured in the uplink DPCH. If hs\_DPCCHInd is absent no HS-DPCCH shall be configured in the uplink DPCH, or the configured HS-DPCCH shall be removed in the modify ASP. In the active set which has radio links from more than one cell the HS-DPCCH is configured only in the HS-DSCH

serving cell.

Three combinations are valid: ul\_DPCH\_Info only, dl\_DPCHInfo only and ul\_DPCH\_Info +

hs\_DPCCHInd.

## **Type Definition**

```
SEQUENCE {
```

ul\_DPCHInfo UL\_DPCH\_Info\_r5 OPTIONAL, dl\_DPCHInfo DL\_DPCHInfo\_r5 OPTIONAL, hs\_DPCCHInd HS\_DPCCHInfo OPTIONAL

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : HS\_DPCCHInfo

**Encoding Variation:** Comments

#### **Type Definition**

#### SEQUENCE {

cqi\_RepetitionFactor CQI\_RepetitionFactor,

ackNackRepetitionFactor ACK\_NACK\_repetitionFactor

**Detailed Comments:** 

#### **ASN.1 Type Definition**

Type Name : HS\_DSCHMACdFlows

**Encoding Variation:** 

Comments : Applicable Rel-5 or later.

Within the ACK/NACK repetition period indicated by ackNackRepetitionFactor the SS shall not

transmit MAC-hs PDU's on HS-PDSCH.

## **Type Definition**

#### SEQUENCE {

harqInfo HARQ\_Info OPTIONAL,

addOrReconfMACdFlow SS\_AddOrReconfMAC\_dFlow OPTIONAL, ackNackRepetitionFactor ACK\_NACK\_repetitionFactor OPTIONAL

Type Name : HS\_PDSCHInfo

**Encoding Variation:** 

**Comments** : Applicable Rel–5 or later

When CHY\_RL\_Setup\_REQ is called with CHOICE of hS\_PDSCHInfo the SS shall not only

configure the HS\_PDSCH but also the HS-SCCH;

The following HS-DSCH related parameters are passed to the SS implicitly by

HSDSCH\_physical\_layer\_category: "Maximum number of HS-DSCH codes can be received by UE", "Minimum inter-TTI interval", "Maximum number of bits of an HS-DSCH transport block

within an HS-DSCH TTI" and "Total number of soft channel bits".

The HSDSCH\_physical\_Layer\_category is also used for interpret the meaning of CQI value.

#### **Type Definition**

#### SEQUENCE{

 $\verb|hSDSCHPhysicalLayerCategory| | HSDSCH\_physical\_layer\_category|,$ 

h\_RNTI H\_RNTI,

dlHSPDSCHInformation DL\_HSPDSCH\_Information,

sttd\_Indicator BOOLEAN,

hs\_SCCH\_TxPower DL\_TxPower -- offset related to pilot bits on DL-DPCCH

-- (TS 25.433 subcluse 9.2.2.18I)

**Detailed Comments:** 

#### **ASN.1 Type Definition**

**Type Name**: HyperFrameNumber

Encoding Variation:
Comments:

### **Type Definition**

BIT STRING (SIZE (20))

**Detailed Comments:** 

#### **ASN.1 Type Definition**

Type Name : Increment\_Mode

Encoding Variation:
Comments:

#### **Type Definition**

ENUMERATED {incPerCFN\_Cycle(0), notInc(1), incByOne\_IncPerCFN\_Cycle(2)}

Type Name : IntegrityActivationInfo

**Encoding Variation:** 

**Comments**: Comment DL or UL integrity activation info.At the RRC message sequence numbers specified in the

ul\_IntegProtActivationInfo the SS shall initialise COUNT-I for the SRB's indicated in the ul\_IntegProtActivationInfo and start using the new configuration on uplink for the indicated SRB's.If the START value is omitted in the CRLC\_SecurityMode\_Config\_REQ above COUNT-I

initialisation shall not be performed.

Type Definition

#### **Type Definition**

CHOICE {

 $integrity Protection Modeln fo\ Integrity Protection Modeln fo, ul\_IntegProtActivation Info\ Integrity ProtActivation Info\ List$ 

**Detailed Comments:** 

### **ASN.1 Type Definition**

Type Name : IntegrityProtActivationInfoList

**Encoding Variation:** 

Comments : List of SS IntegrityProtActivationInfo

**Type Definition** 

SEQUENCE (SIZE (1..maxRB)) OF SS\_IntegrityProtActivationTimeInfo

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : IntegrityResult

Encoding Variation:
Comments:

**Type Definition** 

CHOICE {

integrityNotUsed NULL, integrityUsed IntegrityStatus

**Detailed Comments:** 

### **ASN.1 Type Definition**

Type Name : IntegrityStatus

Encoding Variation:
Comments:

#### **Type Definition**

ENUMERATED {
 i\_pass(0),
 i\_fail(1)

۱'-

Type Name : Invalid\_ActiveSetUpdate

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

#### **Type Definition**

```
CHOICE {
    r3 SEQUENCE {
        activeSetUpdate_r3 ActiveSetUpdate_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

**Detailed Comments:** 

#### **ASN.1 Type Definition**

Type Name : Invalid\_CCCH\_MsgShort

Encoding Variation:
Comments:

## **Type Definition**

**NULL** 

**Detailed Comments:** 

### **ASN.1 Type Definition**

Type Name : Invalid\_CellUpdateConfirm

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

#### **Type Definition**

ASN.1 Type Definition

: Invalid\_DCCH\_MsgShort

:

:

Type Definition

NULL

**Type Name** 

Comments

**Detailed Comments:** 

**Encoding Variation:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_DL\_CCCH\_MsgType

Encoding Variation:
Comments:

#### **Type Definition**

CHOICE {

invalid\_cellUpdateConfirm [0] Invalid\_CCCH\_MsgShort, invalid\_rrcConnectionReject [1] Invalid\_CCCH\_MsgShort, invalid\_rrcConnectionRelease [2] Invalid\_CCCH\_MsgShort,

invalid\_rrcConnectionSetup [3] Invalid\_RRCConnectionSetup, -- Specific invalid message

invalid\_uraUpdateConfirm [4] Invalid\_UraUpdateConfirm,

invalid\_extension [5] NULL,

unkown\_Type\_CCCH\_message [6] Invalid\_CCCH\_MsgShort

Type Name : Invalid\_DL\_DCCH\_MsgType

Encoding Variation:
Comments:

#### **Type Definition**

```
CHOICE {
invalid_activeSetUpdate [0] Invalid_ActiveSetUpdate,
invalid_assistanceDataDelivery [1] Invalid_DCCH_MsgShort,
invalid_cellChangeOrderFromUTRAN [2] Invalid_DCCH_MsgShort,
invalid_cellUpdateConfirm [3] Invalid_CellUpdateConfirm,
invalid_counterCheck [4] Invalid_DCCH_MsgShort,
invalid_downlinkDirectTransfer [5] Invalid_DownlinkDirectTransfer,
invalid_handoverFromUTRANCommand_GSM [6] Invalid_HandoverFromUTRANCommand_GSM,
invalid_handoverFromUTRANCommand_CDMA2000 [7] Invalid_DCCH_MsgShort,
invalid_measurementControl [8] Invalid_MeasurementControl,
invalid_pagingType2 [9] Invalid_DCCH_MsgShort,
invalid_physicalChannelReconfiguration [10] Invalid_PhysicalChannelReconfiguration,
invalid physicalSharedChannelAllocation [11] Invalid DCCH MsgShort,
invalid_radioBearerReconfiguration [12] Invalid_RadioBearerReconfiguration,
invalid_radioBearerRelease [13] Invalid_RadioBearerRelease,
invalid_radioBearerSetup [14] Invalid_RadioBearerSetup,
invalid_rrcConnectionRelease [15] Invalid_RRC_ConnectionRelease,
invalid_securityModeCommand [16] Invalid_SecurityModeCommand,
invalid_signallingConnectionRelease [17] Invalid_DCCH_MsgShort,
invalid_transportChannelReconfiguration [18] Invalid_TransportChannelReconfiguration,
invalid_transportFormatCombinationControl [19] Invalid_DCCH_MsgShort,
invalid_ueCapabilityEnquiry [20] Invalid_UECapabilityEnquiry, -- Specific invalid message
invalid_ueCapabilityInformationConfirm [21] Invalid_UECapabilityInformationConfirm, -- Specific invalid message
invalid_uplinkPhysicalChannelControl [22] Invalid_DCCH_MsgShort,
invalid_uraUpdateConfirm [23] Invalid_UraUpdateConfirm,
invalid_utranMobilityInformation [24] Invalid_UtranMobilityInformation,
invalid_extension [25] NULL,
unkown_Type_DCCH_message [26] Invalid_DCCH_MsgShort
```

#### **Detailed Comments:**

#### **ASN.1 Type Definition**

Type Name : Invalid\_DL\_SHCCH\_MsgType

Encoding Variation:
Comments:

#### **Type Definition**

## CHOICE {

invalid\_physicalSharedChannelAllocation [0] Invalid\_SHCCH\_Message\_short, extension [1] NULL

extension [1] NULL,

unkown\_Type\_SHCCH\_message [2] Invalid\_SHCCH\_Message\_short

}

Type Name : Invalid\_DownlinkDirectTransfer

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

#### **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        downlinkDirectTransfer_r3 DownlinkDirectTransfer_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_HandoverFromUTRANCommand\_GSM

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

#### **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        handoverFromUTRANCommand_GSM_r3 HandoverFromUTRANCommand_GSM_r3_IEs,
        laterNonCriticalExtensions SEQUENCE
    {
            handoverFromUTRANCommand_GSM_r3_add_ext BIT STRING OPTIONAL,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
            rrc_TransactionIdentifier RRC_TransactionIdentifier,
            criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
    }
}
```

Type Name : Invalid\_MeasurementControl

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## Type Definition

## **Detailed Comments:**

## **ASN.1 Type Definition**

Type Name : Invalid\_PhysicalChannelReconfiguration

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE

{
    r3 SEQUENCE
    {
        physicalChannelReconfiguration_r3 PhysicalChannelReconfiguration_r3_IEs,
        v3a0NonCriticalExtensions SEQUENCE
    {
            physicalChannelReconfiguration_v3a0ext PhysicalChannelReconfiguration_v3a0ext,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    }
    }
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
    }
}
```

Type Name : Invalid\_RRCConnectionSetup

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    rr3 SEQUENCE
    {
        rrcConnectionSetup_r3 RRCConnectionSetup_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_RRC\_ConnectionRelease

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        rrcConnectionRelease_r3 RRCConnectionRelease_r3_IEs,
        laterNonCriticalExtensions SEQUENCE
    {
            rrcConnectionRelease_r3_add_ext BIT STRING OPTIONAL,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
            rrc_TransactionIdentifier RRC_TransactionIdentifier,
            criticalExtensions BIT STRING (SIZE(8)) — instead of SEQUENCE {}
    }
}
```

**Type Name** : Invalid\_RadioBearerReconfiguration

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        radioBearerReconfiguration_r3 RadioBearerReconfiguration_r3_IEs,
        v3aoNonCriticalExtensions SEQUENCE
    {
            radioBearerReconfiguration_v3a0ext RadioBearerReconfiguration_v3a0ext,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    }
    } OPTIONAL
},
later_than_r3 SEQUENCE
{
    rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
}
}
```

## **Detailed Comments:**

## **ASN.1 Type Definition**

Type Name : Invalid\_RadioBearerRelease

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        radioBearerRelease_r3 RadioBearerRelease_r3_IEs,
        v3a0NonCriticalExtensions SEQUENCE
    {
        radioBearerRelease_v3a0ext RadioBearerRelease_v3a0ext,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    } OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
    }
}
```

Type Name : Invalid\_RadioBearerSetup

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        radioBearerSetup_r3 RadioBearerSetup_r3_IEs,
        v3a0NonCriticalExtensions SEQUENCE
    {
            radioBearerSetup_v3a0ext RadioBearerSetup_v3a0ext,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    }
    }
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
    }
}
```

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_SHCCH\_Message\_short

Encoding Variation:
Comments:

## **Type Definition**

CounterCheckResponse

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_SecurityModeCommand

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        securityModeCommand_r3 SecurityModeCommand_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) --- INSTEAD OF SEQUENCE {}
    }
}
```

Type Name : Invalid\_TransportChannelReconfiguration

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        transportChannelReconfiguration_r3 TransportChannelReconfiguration_r3_IEs,
        v3a0NonCriticalExtensions SEQUENCE
    {
        transportChannelReconfiguration_v3a0ext TransportChannelReconfiguration_v3a0ext,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    } OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

## **Detailed Comments:**

## **ASN.1 Type Definition**

Type Name : Invalid\_UECapabilityEnquiry

**Encoding Variation:** 

**Comments**: This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        ueCapabilityEnquiry_r3 UECapabilityEnquiry_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) — INSTEAD OF SEQUENCE {}
    }
}
```

Type Name : Invalid\_UECapabilityInformationConfirm

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        ueCapabilityInformationConfirm_r3 UECapabilityInformationConfirm_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : Invalid\_UraUpdateConfirm

**Encoding Variation:** 

Comments : This invalid type should cause an undefined critical extension error

## **Type Definition**

```
CHOICE
{
    r3 SEQUENCE
    {
        uraUpdateConfirm_r3 URAUpdateConfirm_r3_IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    later_than_r3 SEQUENCE
    {
        rrc_TransactionIdentifier RRC_TransactionIdentifier,
        criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}
    }
}
```

## **ASN.1 Type Definition Type Name** : Invalid\_UtranMobilityInformation **Encoding Variation:** Comments : This invalid type should cause an undefined critical extension error **Type Definition** CHOICE r3 SEQUENCE utranMobilityInformation\_r3\_UTRANMobilityInformation\_r3\_IEs, v3a0NonCriticalExtensions SEQUENCE utranMobilityInformation\_v3a0ext UTRANMobilityInformation\_v3a0ext\_IEs, nonCriticalExtensions SEQUENCE {} OPTIONAL } OPTIONAL later\_than\_r3 SEQUENCE rrc\_TransactionIdentifier RRC\_TransactionIdentifier, criticalExtensions BIT STRING (SIZE(8)) -- INSTEAD OF SEQUENCE {}

ASN.1 Type Definition

Type Name : KeyCiphering
Encoding Variation :
Comments :

Type Definition

BIT STRING (SIZE (128))

Detailed Comments :

```
ASN.1 Type Definition

Type Name : LogicalChannelType
Encoding Variation :
Comments :

Type Definition

ENUMERATED {
    bCCH (0),
    pCCH (1),
    cCCH (2),
    cTCH (3),
    dCCH (4),
    dTCH (5),
    sHCCH (6)
}

Detailed Comments :
```

```
ASN.1 Type Definition

Type Name : MAC_HeaderManipulation
Encoding Variation :
Comments :

Type Definition

ENUMERATED
{
normalMacHeader (0),
omitMacHeader (1)
}

Detailed Comments :
```

```
ASN.1 Type Definition

Type Name : Mui
Encoding Variation :
Comments :

Type Definition

INTEGER (0..4095)

Detailed Comments :
```

```
ASN.1 Type Definition
Type Name
                 : PDSCHInfo
Encoding Variation:
Comments
                                             Type Definition
SEQUENCE {
fdd_tdd CHOICE {
 fdd SEQUENCE {
  pdsch_CodeMapping PDSCH_CodeMapping
 tdd SEQUENCE {
  -- pdsch-Identity PDSCH-Identity,
   -- pdsch-Info PDSCH-Info,
   -- pdsch-PowerControlInfo PDSCH-PowerControlInfo OPTIONAL
 }
dl_TxPower DL_TxPower
Detailed Comments:
```

```
ASN.1 Type Definition

Type Name : PICHInfo  
Encoding Variation :  
Comments :  

Type Definition

SEQUENCE { pichinfo PICH_Info,  
dI_TxPower PICH_PowerOffset,  
sccpchId_associated INTEGER (0..31) }

Detailed Comments :
```

```
ASN.1 Type Definition
Type Name
                  : PRACHInfo
Encoding Variation:
Comments
                                                Type Definition
SEQUENCE {
 fdd_tdd CHOICE {
  fdd SEQUENCE {
   preambleSignature AvailableSignatures,
   spreadingFactorForDataPart SF_PRACH,
   preamble Scrambling Code\ Preamble Scrambling Code\ Word Number,
   puncturingLimit PuncturingLimit,
   accessSlot AvailableSubChannelNumbers
  tdd SEQUENCE {
   -- timeSlot TimeSlot,
   -- spreadingCode SpreadingCode,
   -- midambleCode MidambleCode,
}
Detailed Comments:
```

```
ASN.1 Type Definition

Type Name : PayloadSize
Encoding Variation :
Comments :

Type Definition

INTEGER (0..4992)

Detailed Comments :
```

ASN.1 Type Definition

Type Name : PhysicalChannelIdentity
Encoding Variation :
Comments :

Type Definition

INTEGER (0..31)
Detailed Comments :

ASN.1 Type Definition

Type Name : PrimaryCCPCHInfo
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
sttd\_Indicator BOOLEAN,
dl\_TxPower DL\_TxPower
-- timeSlot TimeSlot OPTIONAL,
-- burstType BurstType OPTIONAL,
-- offset Offset OPTIONAL,
-- repetitionPeriod RepetitionPeriod OPTIONAL,
-- repetitionLength RepetitionLength OPTIONAL,
}

Detailed Comments :

ASN.1 Type Definition

Type Name : PrimaryCPICHInfo
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
dI\_TxPower\_PCPICH DL\_TxPower\_PCPICH,
txdiversityIndicator BOOLEAN
}
Detailed Comments :

ASN.1 Type Definition

Type Name : PrimarySCHInfo
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
tstdIndicator BOOLEAN,
dI\_TxPower DL\_TxPower
}

Detailed Comments :

```
ASN.1 Type Definition

Type Name : RBInfo
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
    sS_rlc_Info OPTIONAL,
    rB_LogCH_Mapping RB_LogCH_Mapping
}

Detailed Comments :
```

ASN.1 Type Definition

Type Name : RB\_LogCH\_Mapping
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
 uLlogicalChannelIdentity LogicalChannelIdentity OPTIONAL,
 dLlogicalChannelIdentity LogicalChannelIdentity OPTIONAL,
 logicalChannelType LogicalChannelType OPTIONAL,
 cn\_DomainIdentity CN\_DomainIdentity OPTIONAL
}

Detailed Comments :

ASN.1 Type Definition

Type Name : RLC\_IncMode
Encoding Variation :
Comments :

Type Definition

ENUMERATED {notInc(0), inc(1)}

Detailed Comments :

```
ASN.1 Type Definition

Type Name : RRC_Rel_Status
Encoding Variation :
Comments :

Type Definition

ENUMERATED {
cell_Dch(0),
cell_Fach_Dcch(1),
cell_Fach_Ccch(2)
}

Detailed Comments :
```

Type Name : RRC\_SequenceNumber

**Encoding Variation:** 

Comments : 4 bits long

Type Definition

INTEGER (0..15)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : RatType

**Encoding Variation:** 

**Comments**: To select route between each channels

**Type Definition** 

ENUMERATED {
fdd(0),

tdd(1)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : RegOr\_MO

Encoding Variation:
Comments:

Type Definition

ENUMERATED {
 est\_Reg(0),
 est\_MO(1),
 est\_MT(2)

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : RoutingInfo

Encoding Variation:
Comments:

**Type Definition** 

CHOICE {

physicalChannelIdentity INTEGER (0..31), transportChannelIdentity TransportChannelIdentity, logicalChannelIdentity LogicalChannelIdentity,

rB\_Identity INTEGER (-31..32), cn\_DomainIdentity CN\_DomainIdentity

## ASN.1 Type Definition Type Name : SCCPCHSlotFormat Encoding Variation : Comments : Reference to TS25.211 Type Definition INTEGER (0..17) Detailed Comments :

```
ASN.1 Type Definition
Type Name
                   : SIB
Encoding Variation:
Comments
                   : Union of all system information blocks
                                                  Type Definition
CHOICE {
 sIB1 SysInfoType1,
 sIB2 SysInfoType2,
 sIB3 SysInfoType3,
 sIB4 SysInfoType4,
 sIB5 SysInfoType5,
 sIB6 SysInfoType6,
 sIB7 SysInfoType7,
 sIB8 SysInfoType8,
 sIB9 SysInfoType9,
 sIB10 SysInfoType10,
 sIB11 SysInfoType11,
 sIB12 SysInfoType12,
 sIB13 SysInfoType13,
 sIB13_1 SysInfoType13_1,
 sIB13_2 SysInfoType13_2,
 slB13_3 SysInfoType13_3,
 sIB13_4 SysInfoType13_4,
 sIB14 SysInfoType14,
 sIB15 SysInfoType15,
 sIB15_1 SysInfoType15_1,
 sIB15_2 SysInfoType15_2,
 sIB15_3 SysInfoType15_3,
 sIB16 SysInfoType16,
 sIB17 SysInfoType17,
 sIB18 SysInfoType18,
 mIB MasterInformationBlock,
 sB1 SysInfoTypeSB1,
 sB2 SysInfoTypeSB2
Detailed Comments:
```

# ASN.1 Type Definition Type Name : SS\_ActivationTime Encoding Variation : Comments : Type Definition CHOICE { activationCFN ActivationTime, activateNow NULL } Detailed Comments :

```
ASN.1 Type Definition

Type Name : SS_AddOrReconfMAC_dFlow
Encoding Variation :

Comments : Applicable Rel–5 or later.

Type Definition

SEQUENCE {
    mac_hs_AddReconfQueue_List SEQUENCE (SIZE(1..maxQueueIDs)) OF SEQUENCE {
    mac_hs_AddReconfQueue SS_MAC_hs_AddReconfQueue } OPTIONAL,
    mac_hs_DelQueue_List SEQUENCE (SIZE(1..maxQueueIDs)) OF SEQUENCE {
    mac_hsQueueId INTEGER(0..7)
    } OPTIONAL
}

Detailed Comments :
```

## **ASN.1 Type Definition**

Type Name : SS\_DL\_LogicalChannelMapping

**Encoding Variation:** 

Comments : If the macHeaderManipulation field is 'normalMacHeader', then data transmitted on this logical

channel shall have an appropriate MAC header added before it is sent to lower layers for

transmission.

If the macHeaderManipulation field is 'OmitMacHeader', then data transmitted on this logical channel shall not have any MAC header information added, even if the logical channel type and mapping indicates that there should be a MAC header present. This allows the entire MAC PDU to

be specified in the TTCN, so individual fields in the MAC header can be modified. When used for logical channel to MAC\_d flow mapping rlc\_SizeList should choose

 $RLC\_Size Explicit List.$ 

## Type Definition

```
SEQUENCE {
    macHeaderManipulation MAC_HeaderManipulation,
    dl_TransportChannelType SS_DL_TransportChannelType,
    logicalChannelIdentity LogicalChannelIdentity,
    logicalChannelType LogicalChannelType ,
    rlc_SizeList CHOICE {
        allSizes NULL,
        configured NULL,
        explicitList RLC_SizeExplicitList
    },
    mac_LogicalChannelPriority MAC_LogicalChannelPriority OPTIONAL
}
```

```
ASN.1 Type Definition

Type Name : SS_DL_RLC_Mode
Encoding Variation :
Comments :

Type Definition

SEQUENCE {
dI_PayloadSize PayloadSize OPTIONAL,
dI_RLCModeInfo UL_RLC_Mode
}

Detailed Comments :
```

```
ASN.1 Type Definition

Type Name : SS_DL_TransportChannelType
Encoding Variation :

Comments :

Type Definition

ENUMERATED {
    dch(0),
    fach(1),
    bch(2),
    pch(3),
    dsch(4),
    hsdsch(5) -- Rel-5 or later
}

Detailed Comments :
```

```
ASN.1 Type Definition

Type Name : SS_IntegrityProtActivationTimeInfo
Encoding Variation :
Comments : Omitting rrc_MessageSequenceNumber means activation time set to "now".

Type Definition

SEQUENCE
{
rb_Identity INTEGER (-31..32),
rrc_MessageSequenceNumber RRC_MessageSequenceNumber OPTIONAL
}

Detailed Comments :
```

**Type Name** : SS\_MAC\_hs\_AddReconfQueue

**Encoding Variation:** 

Comments : Applicable Rel-5 or later.

When writing TTCN constraints the TTCN writer shall set the priority of PriorityQueue in this object correctly according to the priority of logical channels which is mapped on to this priority queue. And please note that: the range of priority of PriorityQueue is from 0 to 7 and 0 is the lowest

priority.

## **Type Definition**

```
SEQUENCE {
mAChsAddReconfQueue MAC_hs_AddReconfQueue,
logicalChannelList SEQUENCE OF LogicalChannelIdentity,
 -- logical channels mapping onto the priority queue
 -- which is specified in maChsAddReconfQueue
priority INTEGER(0..7),
 discardTimer ENUMERATED { v20(0), v40(1), v60(2), v80(3), v100(4),
  v120(5), v140(6), v160(7), v180(8), v200(9),
  v250(10),v300(11),v400(12),v500(13),
  v750(14),v1000(15),v1250(16),v1500(17),
  v1750(18),v2000(19),v2500(20),v3000(21),
  v3500(22),v4000(23),v4500(24),v5000(25),
  v7500(26)
} OPTIONAL
```

## **Detailed Comments:**

## **ASN.1 Type Definition**

**Type Name** : SS\_RLC\_Info

**Encoding Variation:** Comments

## **Type Definition**

```
SEQUENCE {
```

sS\_ul\_RLC\_Mode DL\_RLC\_Mode OPTIONAL, sS\_dl\_RLC\_Mode SS\_DL\_RLC\_Mode OPTIONAL,

sS\_ul\_RLC\_Mode\_r5 DL\_RLC\_Mode\_r5 OPTIONAL -- Rel-5 or later

Type Name : SS\_UL\_LogicalChannelMapping

**Encoding Variation:** 

Comments

: If the macHeaderManipulation field is 'normalMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, and removed as normal. The MAC SDU shall be passed to the appropriate logical channel.

If the macHeaderManipulation field field is 'OmitMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, but the MAC layer shall not remove the MAC header. Thus the entire MAC PDU shall be passed to the appropriate logical channel, and the MAC header can be checked by the

TTCN.

## **Type Definition**

## SEQUENCE {

macHeaderManipulation MAC\_HeaderManipulation, ul\_TransportChannelType SS\_UL\_TransportChannelType, logicalChannelIdentity LogicalChannelIdentity, logicalChannelType LogicalChannelType

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : SS\_UL\_TransportChannelType

Encoding Variation:
Comments:

## **Type Definition**

ENUMERATED {
dch(0),
rach(1),
cpch(2),
usch(3)

}

Type Name : SecondaryCCPCHInfo

**Encoding Variation:** 

**Comments**: The range for powerOffsetOfTFCI\_PO1 and powerOffsetOfPILOT\_PO3 is 0–6 dB, 0.25 dB per

step.

## **Type Definition**

```
SEQUENCE {
scramblingCode INTEGER(0..15),
{\sf dl\_ChannelizationCode\ SF256\_AndCodeNumber,}
 sCCPCHSlotFormat SCCPCHSlotFormat,
timingOffset INTEGER (0..149),
positionFixedOrFlexible PositionFixedOrFlexible,
 sttd_Indicator BOOLEAN,
 dl_TxPower DL_TxPower,
powerOffsetOfTFCI_PO1 INTEGER (0..24),
powerOffsetOfPILOT_PO3 INTEGER (0..24)
 -- timeSlot TimeSlot OPTIONAL,
 -- burstType BurstType OPTIONAL,
 -- midambleShift MidambleShift OPTIONAL,
 -- offset Offset OPTIONAL,
 -- repetitionPeriod RepetitionPeriod OPTIONAL,
 -- repetitionLength RepetitionLength OPTIONAL,
 -- tFCIPresence TFCIPresence OPTIONAL,
```

**Detailed Comments:** 

**Encoding Variation:** 

**Type Name** 

Comments

## Type Definition

```
SEQUENCE {
    scramblingCode INTEGER(0..63),
    dl_ChannelizationCode SF512_AndCodeNumber,
    dl_TxPower DL_TxPower
```

: SecondaryCPICHInfo

**Detailed Comments:** 

## **ASN.1 Type Definition**

**ASN.1 Type Definition** 

**Type Name**: SecondarySCHInfo

Encoding Variation:
Comments:

## **Type Definition**

SEQUENCE {
 tstdIndicator BOOLEAN,
 dl\_TxPower DL\_TxPower

**Type Name** : SecurityInfo

**Encoding Variation:** 

Comments : The integrityKey is not applicable to MAC

## **Type Definition**

```
SEQUENCE {
```

cn\_DomainIdentity CN\_DomainIdentity, startValue START\_Value OPTIONAL,

cipheringKey BIT STRING (SIZE (128)) OPTIONAL, integrityKey BIT STRING (SIZE (128)) OPTIONAL. gsmCipheringKey BIT STRING (SIZE (64)) OPTIONAL

Detailed Comments: When the SS receives SecurityInfo, the SS first stores the contents. The SecurityInfo contents is not activated ion of the contents follows until receiving the subsequent ASP,

CRLC\_Ciphering\_Activate\_REQ, CMAC\_Ciphering\_Activate\_REQ or

CRLC\_Integrity\_Activate\_REQ. Omitted fields of SecurityInfo shall not be affected by the subsequent ASP at the activation time.EXAMPLE: Omitting of startValue indicates not to re-initialize the relevant COUNT?C or COUNT-I, omitting of cipheringKey indicates that the

current ciphering key is valid..

## **ASN.1 Type Definition**

Type Name : SegmentsOfSysInfoBlock

**Encoding Variation:** 

Comments : The structure holding the segments of a MIB/SIB/SB, maximum number of segments is 16.

## **Type Definition**

```
SEQUENCE
```

segCount INTEGER (1..16), seg1 BIT STRING (SIZE (1..226)),

seg2 BIT STRING (SIZE (1..222)) OPTIONAL, seg3 BIT STRING (SIZE (1..222)) OPTIONAL,

seg4 BIT STRING (SIZE (1..222)) OPTIONAL,

seg5 BIT STRING (SIZE (1..222)) OPTIONAL, seg6 BIT STRING (SIZE (1..222)) OPTIONAL,

seg7 BIT STRING (SIZE (1..222)) OPTIONAL, seg8 BIT STRING (SIZE (1..222)) OPTIONAL,

seg9 BIT STRING (SIZE (1..222)) OPTIONAL,

seg10 BIT STRING (SIZE (1..222)) OPTIONAL, seg11 BIT STRING (SIZE (1..222)) OPTIONAL,

seg12 BIT STRING (SIZE (1..222)) OPTIONAL,

seg13 BIT STRING (SIZE (1..222)) OPTIONAL,

seg14 BIT STRING (SIZE (1..222)) OPTIONAL, seg15 BIT STRING (SIZE (1..222)) OPTIONAL,

seg16 BIT STRING (SIZE (1..222)) OPTIONAL

Type Name : Tcell Encoding Variation :

Comments : Timing offset between reference channel and this channel ( unit : 256 chips )

**Type Definition** 

INTEGER (0..38399)

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : TrCHInfo

**Encoding Variation:** 

**Comments**: The same TFCS information should be provided to the PHY and MAC layers at all times. When a

CMAC\_Config\_REQ is used to configure the MAC layer, a corresponding

CPHY\_TrCH\_Config\_REQ should be sent to the PHY layer to ensure that the configuration is

consistent.

For MAC-hs configuration:

When ulconnectedTrCHList, ulTFCS, dlconnectedTrCHList and dlTFCS are omitted this ASP

configures an MAC-hs entity.

## **Type Definition**

```
SEQUENCE
```

ulconnectedTrCHList SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE { trchid TransportChannelIdentity,

transportChannelInfo CommonOrDedicatedTFS

} OPTIONAL,

ultfcs tfcs optional,

dlconnectedTrCHList SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {

trchid TransportChannelldentity,

transportChannelInfo CommonOrDedicatedTFS

} OPTIONAL,

dITFCS TFCS OPTIONAL,

 $hs DSCHMacdFlows\ HS\_DSCHMACdFlows\ OPTIONAL\ --\ Rel-5\ or\ later$ 

}

**Detailed Comments:** 

## **ASN.1 Type Definition**

Type Name : TrCH\_LogCHMappingList

**Encoding Variation:** 

**Comments** : maxLogCHperTrCH = 8

Type Definition

SEQUENCE (SIZE (1..maxLogCHperTrCH)) OF TrCH\_LogicalChannelMapping

```
ASN.1 Type Definition
Type Name
                  : TrCH_LogCHMappingList1
Encoding Variation:
Comments
                  : maxulTrCH = maxdlTrCH = 16
                                               Type Definition
SEQUENCE
 ulconnectedTrCHList SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE {
  trchid TransportChannelIdentity,
  trCH_LogCHMappingList TrCH_LogCHMappingList} OPTIONAL,
 dlconnectedTrCHList SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {
  trchid\ Transport Channell dentity,
  trCH_LogCHMappingList TrCH_LogCHMappingList} OPTIONAL
 diconnectedMACdFlows SEQUENCE (SIZE (1..8)) OF SEQUENCE {
  mac_dFlowId MAC_d_FlowIdentity,
  trCH_LogCHMappingList TrCH_LogCHMappingList
 } OPTIONAL -- Rel-5 or later
Detailed Comments:
```

```
ASN.1 Type Definition

Type Name : TrCH_LogicalChannelMapping
Encoding Variation :

Comments : When used for logical channel to MAC_d flow mapping dl_LogicalChannelMapping shall be chosen,

Type Definition

SEQUENCE {
    logicalChannel_Mapping CHOICE {
        ul_LogicalChannelMapping SS_UL_LogicalChannelMapping,
        dl_LogicalChannelMapping SS_DL_LogicalChannelMapping
    },
    rB_Identity INTEGER (-31..32) OPTIONAL,
    cn_DomainIdentity CN_DomainIdentity OPTIONAL
}

Detailed Comments :
```

```
ASN.1 Type Definition

Type Name : TrChConfigType
Encoding Variation :
Comments :

Type Definition

CHOICE {
    nonDch NULL,
    dch ENUMERATED {normal(0), softHO(1)}}

Detailed Comments :
```

Type Name : UE\_Info

**Encoding Variation:** 

Comments : The value of c\_RNTI\_DSCH\_RNTI is 16 bits, used either for C-RNTI or DSCH-RNTI. DSCH is

configured if the physical channel in CMAC\_config\_REQ is a PDSCH. Otherwise, C-RNTI is applied. For MAC-hs configuration both u\_RNTI and c\_RNTI\_DSCH\_RNTI are omitted.

## **Type Definition**

SEQUENCE {

u\_RNTI U\_RNTI OPTIONAL, c\_RNTI C\_RNTI OPTIONAL

}

**Detailed Comments:** 

**ASN.1 Type Definition** 

Type Name : UE\_OperationMode

Encoding Variation:
Comments:

**Type Definition** 

ENUMERATED { opModeA (0), opModeC (1) }

|   | ASN.1 Type Definitions By Reference      |                   |                    |          |  |
|---|--|-------------------|--------------------|----------|--|
| Type Name                               | Type Reference                           | Module Identifier | Encoding Variation | Comments |  |
| DL_DCCH_MessageT                        | DL-DCCH-MessageT                         | Class-definitions |                    |          |  |
| ype                                     | ype                                      |                   |                    |          |  |
| UL_DCCH_MessageT<br>ype                 | UL-DCCH-MessageT<br>ype                  | Class-definitions |                    |          |  |
| DL_CCCH_MessageT<br>ype                 | DL-CCCH-MessageT<br>ype                  | Class-definitions |                    |          |  |
| UL_CCCH_MessageT<br>ype                 | UL-CCCH-MessageT ype                     | Class-definitions |                    |          |  |
| PCCH_MessageType                        | PCCH-MessageType                         | Class-definitions |                    |          |  |
| DL_SHCCH_Message<br>Type                | DL-SHCCH-Messag<br>eType                 | Class-definitions |                    |          |  |
| UL_SHCCH_Message<br>Type                | UL-SHCCH-Messag<br>eType                 | Class-definitions |                    |          |  |
| BCCH_FACH_Messa<br>geType               | BCCH-FACH-Messa<br>geType                | Class-definitions |                    |          |  |
| ActiveSetUpdate                         | ActiveSetUpdate                          | Class-definitions |                    |          |  |
| ActiveSetUpdate_r3_I<br>Es              | ActiveSetUpdate-r3-<br>IEs               | Class-definitions |                    |          |  |
| ActiveSetUpdate_v4b<br>0ext_IEs         | ActiveSetUpdate-v4b<br>0ext-IEs          | Class-definitions |                    |          |  |
| ActiveSetUpdate_v59<br>0ext_IEs         | ActiveSetUpdate-v59<br>0ext-IEs          | Class-definitions |                    |          |  |
| ActiveSetUpdateCom plete                | ActiveSetUpdateCom plete                 | Class-definitions |                    |          |  |
| ActiveSetUpdateFailur e                 | ActiveSetUpdateFailur e                  | Class-definitions |                    |          |  |
| AssistanceDataDeliver y                 | AssistanceDataDeliver y                  | Class-definitions |                    |          |  |
| AssistanceDataDeliver y_r3_IEs          | AssistanceDataDeliver y-r3-lEs           | Class-definitions |                    |          |  |
| AssistanceDataDeliver y_v3a0ext         | AssistanceDataDeliver y-v3a0ext          | Class-definitions |                    |          |  |
| AssistanceDataDeliver y_v4b0ext_IEs     | AssistanceDataDeliver y-v4b0ext-IEs      | Class-definitions |                    |          |  |
| CellChangeOrderFrom UTRAN               | CellChangeOrderFrom UTRAN                | Class-definitions |                    |          |  |
| CellChangeOrderFrom UTRAN_r3_IEs        | CellChangeOrderFrom UTRAN-r3-IEs         | Class-definitions |                    |          |  |
| CellChangeOrderFrom UTRAN_v590ext_IEs   | CellChangeOrderFrom<br>UTRAN-v590ext-IEs | Class-definitions |                    |          |  |
| CellChangeOrderFrom UTRANFailure        | CellChangeOrderFrom UTRANFailure         | Class-definitions |                    |          |  |
| CellChangeOrderFrom UTRANFailure_r3_IEs | CellChangeOrderFrom UTRANFailure-r3-IEs  | Class-definitions |                    |          |  |
| CellUpdate                              | CellUpdate                               | Class-definitions |                    |          |  |
| CellUpdate_v590ext                      | CellUpdate-v590ext                       | Class-definitions |                    |          |  |
| CellUpdateConfirm                       | CellUpdateConfirm                        | Class-definitions |                    |          |  |
| CellUpdateConfirm_r3<br>_IEs            | CellUpdateConfirm-r<br>3-IEs             | Class-definitions |                    |          |  |
| CellUpdateConfirm_v<br>3a0ext           | CellUpdateConfirm-v<br>3a0ext            | Class-definitions |                    |          |  |
| CellUpdateConfirm_v<br>4b0ext_IEs       | CellUpdateConfirm-v<br>4b0ext-IEs        | Class-definitions |                    |          |  |

| ASN.1 Type Definitions By Reference              |  |                   |                    |          |
|--|--|-------------------|--------------------|----------|
| Type Name  | Type Reference                                   | Module Identifier | Encoding Variation | Comments |
| CellUpdateConfirm_v<br>590ext_IEs                | CellUpdateConfirm-v<br>590ext-IEs                | Class-definitions |                    |          |
| CellUpdateConfirm_r4<br>_IEs                     | CellUpdateConfirm-r<br>4-IEs                     | Class-definitions |                    |          |
| CellUpdateConfirm_r5<br>_IEs                     | CellUpdateConfirm-r<br>5-IEs                     | Class-definitions |                    |          |
| CellUpdateConfirm_CCCH                           | CellUpdateConfirm-C<br>CCH                       | Class-definitions |                    |          |
| CounterCheck                                     | CounterCheck                                     | Class-definitions |                    |          |
| CounterCheck_r3_IEs                              | CounterCheck-r3-IE<br>s                          | Class-definitions |                    |          |
| CounterCheckRespon se                            | CounterCheckRespon se                            | Class-definitions |                    |          |
| DownlinkDirectTransfe r                          | DownlinkDirectTransfe r                          | Class-definitions |                    |          |
| DownlinkDirectTransfe r_r3_IEs                   | DownlinkDirectTransfe r-r3-IEs                   | Class-definitions |                    |          |
| HandoverToUTRANC omplete                         | HandoverToUTRANC omplete                         | Class-definitions |                    |          |
| InitialDirectTransfer                            | InitialDirectTransfer                            | Class-definitions |                    |          |
| InitialDirectTransfer_v<br>3a0ext                | InitialDirectTransfer-v<br>3a0ext                | Class-definitions |                    |          |
| InitialDirectTransfer_v<br>590ext                | InitialDirectTransfer-v<br>590ext                | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_GSM                 | HandoverFromUTRAN<br>Command-GSM                 | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_GSM_r3_I<br>Es      | HandoverFromUTRAN<br>Command-GSM-r3-I<br>Es      | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_GERANIu             | HandoverFromUTRAN<br>Command-GERANIu             | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_GERANIu_<br>r5_IEs  | HandoverFromUTRAN<br>Command-GERANIu<br>-r5-IEs  | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_CDMA200<br>0        | HandoverFromUTRAN<br>Command-CDMA200<br>0        | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Command_CDMA200<br>0_r3_IEs | HandoverFromUTRAN<br>Command-CDMA200<br>0-r3-IEs | Class-definitions |                    |          |
| HandoverFromUTRAN<br>Failure                     | HandoverFromUTRAN<br>Failure                     | Class-definitions |                    |          |
| HandoverFromUtranF ailure_v590ext_IEs            | HandoverFromUtranF<br>ailure-v590ext-IEs         | Class-definitions |                    |          |
| MeasurementControl                               | MeasurementControl                               | Class-definitions |                    |          |
| MeasurementControl_<br>r3_IEs                    | MeasurementControl-<br>r3-IEs                    | Class-definitions |                    |          |
| MeasurementControl_<br>v390ext                   | MeasurementControl-<br>v390ext                   | Class-definitions |                    |          |
| MeasurementControl_<br>v3a0ext                   | MeasurementControl-<br>v3a0ext                   | Class-definitions |                    |          |
| MeasurementControl_<br>r4_IEs                    | MeasurementControl-<br>r4-IEs                    | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference          |  |                   |                    |          |
|--|--|-------------------|--------------------|----------|
| Type Name                                    | Type Reference                               | Module Identifier | Encoding Variation | Comments |
| MeasurementControl_<br>v590ext_IEs           | MeasurementControl-<br>v590ext-IEs           | Class-definitions |                    |          |
| MeasurementControl_<br>v5b0ext_IEs           | MeasurementControl-<br>v5b0ext-IEs           | Class-definitions |                    |          |
| MeasurementControlF ailure                   | MeasurementControlF ailure                   | Class-definitions |                    |          |
| MeasurementControlF ailure_v590ext_IEs       | MeasurementControlF ailure-v590ext-IEs       | Class-definitions |                    |          |
| MeasurementReport                            | MeasurementReport                            | Class-definitions |                    |          |
| MeasurementReport_v<br>390ext                | MeasurementReport-<br>v390ext                | Class-definitions |                    |          |
| MeasurementReport_v<br>4b0ext_IEs            | MeasurementReport-<br>v4b0ext-IEs            | Class-definitions |                    |          |
| MeasurementReport_v<br>590ext_IEs            | MeasurementReport-<br>v590ext-IEs            | Class-definitions |                    |          |
| MeasurementReport_v<br>5b0ext_IEs            | MeasurementReport-<br>v5b0ext-IEs            | Class-definitions |                    |          |
| PagingType1                                  | PagingType1                                  | Class-definitions |                    |          |
| PagingType1_v590ext<br>_IEs                  | PagingType1-v590ext<br>-IEs                  | Class-definitions |                    |          |
| PagingType2                                  | PagingType2                                  | Class-definitions |                    |          |
| PhysicalChannelRecon figuration              | PhysicalChannelRecon figuration              | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_r3_IEs       | PhysicalChannelRecon figuration-r3-lEs       | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_v3a0ext      | PhysicalChannelRecon figuration-v3a0ext      | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_v4b0ext_IE s | PhysicalChannelRecon figuration-v4b0ext-l Es | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_v590ext_IE s | PhysicalChannelRecon figuration-v590ext-l Es | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_r4_IEs       | PhysicalChannelRecon figuration-r4-IEs       | Class-definitions |                    |          |
| PhysicalChannelRecon figuration_r5_IEs       | PhysicalChannelRecon figuration-r5-IEs       | Class-definitions |                    |          |
| PhysicalChannelRecon figurationComplete      | PhysicalChannelRecon figurationComplete      | Class-definitions |                    |          |
| PhysicalChannelRecon figurationFailure       | PhysicalChannelRecon figurationFailure       | Class-definitions |                    |          |
| PhysicalSharedChann elAllocation             | PhysicalSharedChann elAllocation             | Class-definitions |                    |          |
| PhysicalSharedChann elAllocation_r3_IEs      | PhysicalSharedChann elAllocation-r3-IEs      | Class-definitions |                    |          |
| PhysicalSharedChann elAllocation_r4_IEs      | PhysicalSharedChann elAllocation-r4-IEs      | Class-definitions |                    |          |
| PUSCHCapacityRequ est                        | PUSCHCapacityRequ est                        | Class-definitions |                    |          |
| PUSCHCapacityRequ<br>est_v590ext             | PUSCHCapacityRequ<br>est-v590ext             | Class-definitions |                    |          |
| RadioBearerReconfigu ration                  | RadioBearerReconfigu ration                  | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference        |  |                   |                    |          |
|--|--|-------------------|--------------------|----------|
| Type Name                                  | Type Reference                             | Module Identifier | Encoding Variation | Comments |
| RadioBearerReconfigu ration_r3_IEs         | RadioBearerReconfigu ration-r3-IEs         | Class-definitions |                    |          |
| RadioBearerReconfigu ration_v3a0ext        | RadioBearerReconfigu ration–v3a0ext        | Class-definitions |                    |          |
| RadioBearerReconfigu<br>ration_v4b0ext_IEs | RadioBearerReconfigu<br>ration–v4b0ext–IEs | Class-definitions |                    |          |
| RadioBearerReconfigu ration_v590ext_IEs    | RadioBearerReconfigu<br>ration–v590ext–IEs | Class-definitions |                    |          |
| RadioBearerReconfigu<br>ration_r4_IEs      | RadioBearerReconfigu<br>ration-r4-IEs      | Class-definitions |                    |          |
| RadioBearerReconfigu ration_r5_IEs         | RadioBearerReconfigu ration-r5-IEs         | Class-definitions |                    |          |
| RadioBearerReconfigu rationComplete        | RadioBearerReconfigu rationComplete        | Class-definitions |                    |          |
| RadioBearerReconfigu rationFailure         | RadioBearerReconfigu rationFailure         | Class-definitions |                    |          |
| RadioBearerRelease                         | RadioBearerRelease                         | Class-definitions |                    |          |
| RadioBearerRelease_r<br>3_IEs              | RadioBearerRelease-r<br>3-IEs              | Class-definitions |                    |          |
| RadioBearerRelease_v<br>3a0ext             | RadioBearerRelease-v<br>3a0ext             | Class-definitions |                    |          |
| RadioBearerRelease_v<br>4b0ext_IEs         | RadioBearerRelease-v<br>4b0ext-IEs         | Class-definitions |                    |          |
| RadioBearerRelease_v<br>590ext_IEs         | RadioBearerRelease-v<br>590ext-IEs         | Class-definitions |                    |          |
| RadioBearerRelease_r<br>4_IEs              | RadioBearerRelease-r<br>4-IEs              | Class-definitions |                    |          |
| RadioBearerRelease_r<br>5_IEs              | RadioBearerRelease-r<br>5-IEs              | Class-definitions |                    |          |
| RadioBearerReleaseCo<br>mplete             | RadioBearerReleaseCo<br>mplete             | Class-definitions |                    |          |
| RadioBearerReleaseFail<br>ure              | RadioBearerReleaseFail<br>ure              | Class-definitions |                    |          |
| RadioBearerSetup                           | RadioBearerSetup                           | Class-definitions |                    |          |
| RadioBearerSetup_r3_<br>IEs                | RadioBearerSetup-r3<br>-IEs                | Class-definitions |                    |          |
| RadioBearerSetup_v3<br>a0ext               | RadioBearerSetup-v3<br>a0ext               | Class-definitions |                    |          |
| RadioBearerSetup_v4<br>b0ext_IEs           | RadioBearerSetup-v4<br>b0ext-IEs           | Class-definitions |                    |          |
| RadioBearerSetup_v5<br>90ext_IEs           | RadioBearerSetup-v5<br>90ext-IEs           | Class-definitions |                    |          |
| RadioBearerSetup_r4_<br>IEs                | RadioBearerSetup-r4<br>-IEs                | Class-definitions |                    |          |
| RadioBearerSetup_r5_<br>IEs                | RadioBearerSetup-r5 -IEs                   | Class-definitions |                    |          |
| RadioBearerSetupCom plete                  | RadioBearerSetupCom plete                  | Class-definitions |                    |          |
| RadioBearerSetupFailu<br>re                | RadioBearerSetupFailu re                   | Class-definitions |                    |          |
| RRCConnectionReject                        | RRCConnectionReject                        | Class-definitions |                    |          |
| RRCConnectionReject<br>_r3_IEs             | RRCConnectionReject<br>-r3-IEs             | Class-definitions |                    |          |

|  | ASN.1 Type Definitions By Reference            |                   |                    |          |  |
|--|--|-------------------|--------------------|----------|--|
| Type Name                                      | Type Reference                                 | Module Identifier | Encoding Variation | Comments |  |
| RRCConnectionReleas                            | RRCConnectionReleas                            | Class-definitions |                    |          |  |
| e RRCConnectionReleas e_r3_IEs                 | e<br>RRCConnectionReleas<br>e-r3-IEs           | Class-definitions |                    |          |  |
| RRCConnectionReleas<br>e_r4_IEs                | RRCConnectionReleas<br>e-r4-IEs                | Class-definitions |                    |          |  |
| RRCConnectionReleas e_CCCH                     | RRCConnectionReleas<br>e-CCCH                  | Class-definitions |                    |          |  |
| RRCConnectionReleas e_CCCH_r3_IEs              | RRCConnectionReleas<br>e-CCCH-r3-IEs           | Class-definitions |                    |          |  |
| RRCConnectionReleas e_CCCH_r4_IEs              | RRCConnectionReleas<br>e-CCCH-r4-IEs           | Class-definitions |                    |          |  |
| RRCConnectionReleas e_CCCH_r5_IEs              | RRCConnectionReleas<br>e-CCCH-r5-IEs           | Class-definitions |                    |          |  |
| RRCConnectionReleas eComplete                  | RRCConnectionReleas eComplete                  | Class-definitions |                    |          |  |
| RRCConnectionReque st                          | RRCConnectionReque st                          | Class-definitions |                    |          |  |
| RRCConnectionReque st_v3d0ext_IEs              | RRCConnectionReque<br>st-v3d0ext-IEs           | Class-definitions |                    |          |  |
| RRCConnectionReque st_v4b0ext_IEs              | RRCConnectionReque st-v4b0ext-IEs              | Class-definitions |                    |          |  |
| RRCConnectionReque st_v590ext_IEs              | RRCConnectionReque st-v590ext-IEs              | Class-definitions |                    |          |  |
| RRCConnectionSetup                             | RRCConnectionSetup                             | Class-definitions |                    |          |  |
| RRCConnectionSetup _r3_IEs                     | RRCConnectionSetup<br>-r3-IEs                  | Class-definitions |                    |          |  |
| RRCConnectionSetup _v4b0ext_IEs                | RRCConnectionSetup<br>-v4b0ext-IEs             | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>_v590ext_IEs             | RRCConnectionSetup<br>-v590ext-IEs             | Class-definitions |                    |          |  |
| RRCConnectionSetup _r4_IEs                     | RRCConnectionSetup<br>-r4-IEs                  | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>_r5_IEs                  | RRCConnectionSetup<br>-r5-IEs                  | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete                 | RRCConnectionSetup<br>Complete                 | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v370ext         | RRCConnectionSetup<br>Complete-v370ext         | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v380ext_IE<br>s | RRCConnectionSetup<br>Complete-v380ext-I<br>Es | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v3a0ext_IE<br>s | RRCConnectionSetup<br>Complete-v3a0ext-I<br>Es | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v3g0ext_IE<br>s | RRCConnectionSetup<br>Complete-v3g0ext-I<br>Es | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v4b0ext_IE<br>s | RRCConnectionSetup<br>Complete-v4b0ext-I<br>Es | Class-definitions |                    |          |  |
| RRCConnectionSetup<br>Complete_v590ext_IE<br>s | RRCConnectionSetup<br>Complete-v590ext-I<br>Es | Class-definitions |                    |          |  |

|   | ASN.1 Type Definitions By Reference           |                   |                    |          |  |
|---|---|-------------------|--------------------|----------|--|
| Type Name   | Type Reference                                | Module Identifier | Encoding Variation | Comments |  |
| RRCStatus   | RRCStatus                                     | Class-definitions |                    |          |  |
| SecurityModeComman d                                | SecurityModeComman d                          | Class-definitions |                    |          |  |
| SecurityModeComman d_r3_IEs                         | SecurityModeComman d-r3-IEs                   | Class-definitions |                    |          |  |
| SecurityModeComplet e                               | SecurityModeComplet e                         | Class-definitions |                    |          |  |
| SecurityModeFailure                                 | SecurityModeFailure                           | Class-definitions |                    |          |  |
| SignallingConnectionR elease                        | SignallingConnectionR elease                  | Class-definitions |                    |          |  |
| SignallingConnectionR elease_r3_IEs                 | SignallingConnectionR elease-r3-IEs           | Class-definitions |                    |          |  |
| SignallingConnectionR eleaseIndication              | SignallingConnectionR eleaseIndication        | Class-definitions |                    |          |  |
| SystemInformation_B<br>CH                           | SystemInformation-B<br>CH                     | Class-definitions |                    |          |  |
| SystemInformation_F<br>ACH                          | SystemInformation-F<br>ACH                    | Class-definitions |                    |          |  |
| FirstSegment  | FirstSegment                                  | Class-definitions |                    |          |  |
| FirstSegmentShort                                   | FirstSegmentShort                             | Class-definitions |                    |          |  |
| SubsequentSegment                                   | SubsequentSegment                             | Class-definitions |                    |          |  |
| LastSegment   | LastSegment                                   | Class-definitions |                    |          |  |
| LastSegmentShort                                    | LastSegmentShort                              | Class-definitions |                    |          |  |
| CompleteSIB_List                                    | CompleteSIB-List                              | Class-definitions |                    |          |  |
| CompleteSIB   | CompleteSIB                                   | Class-definitions |                    |          |  |
| CompleteSIBshort                                    | CompleteSIBshort                              | Class-definitions |                    |          |  |
| SystemInformationCh angeIndication                  | SystemInformationCh angeIndication            | Class-definitions |                    |          |  |
| TransportChannelRec onfiguration                    | TransportChannelRec onfiguration              | Class-definitions |                    |          |  |
| TransportChannelRec onfiguration_r3_IEs             | TransportChannelRec onfiguration-r3-IEs       | Class-definitions |                    |          |  |
| TransportChannelRec onfiguration_v3a0ext            | TransportChannelRec onfiguration-v3a0ext      | Class-definitions |                    |          |  |
| TransportChannelRec<br>onfiguration_v4b0ext<br>_IEs | TransportChannelRec onfiguration-v4b0ext -IEs | Class-definitions |                    |          |  |
| TransportChannelRec<br>onfiguration_v590ext<br>_IEs | TransportChannelRec onfiguration-v590ext -IEs | Class-definitions |                    |          |  |
| TransportChannelRec onfiguration_r4_IEs             | TransportChannelRec onfiguration-r4-IEs       | Class-definitions |                    |          |  |
| TransportChannelRec onfiguration_r5_IEs             | TransportChannelRec onfiguration-r5-IEs       | Class-definitions |                    |          |  |
| TransportChannelRec onfigurationComplete            | TransportChannelRec onfigurationComplete      | Class-definitions |                    |          |  |
| TransportChannelRec onfigurationFailure             | TransportChannelRec onfigurationFailure       | Class-definitions |                    |          |  |
| TransportFormatCom binationControl                  | TransportFormatCom binationControl            | Class-definitions |                    |          |  |
| TransportFormatCom binationControlFailure           | TransportFormatCom binationControlFailure     | Class-definitions |                    |          |  |

|  | ASN.1 Type Definitions By Reference          |                   |                    |          |  |
|--|--|-------------------|--------------------|----------|--|
| Type Name                                    | Type Reference                               | Module Identifier | Encoding Variation | Comments |  |
| UECapabilityEnquiry                          | UECapabilityEnquiry                          | Class-definitions |                    |          |  |
| UECapabilityEnquiry_r<br>3_IEs               | UECapabilityEnquiry–<br>r3–IEs               | Class-definitions |                    |          |  |
| UECapabilityEnquiry_<br>v4b0ext_IEs          | UECapabilityEnquiry–<br>v4b0ext–IEs          | Class-definitions |                    |          |  |
| UECapabilityEnquiry_<br>v590ext_IEs          | UECapabilityEnquiry–<br>v590ext–IEs          | Class-definitions |                    |          |  |
| UECapabilityInformati on                     | UECapabilityInformati on                     | Class-definitions |                    |          |  |
| UECapabilityInformati on_v370ext             | UECapabilityInformati on–v370ext             | Class-definitions |                    |          |  |
| UECapabilityInformati on_v380ext_IEs         | UECapabilityInformati<br>on-v380ext-IEs      | Class-definitions |                    |          |  |
| UECapabilityInformati on_v3a0ext_IEs         | UECapabilityInformati<br>on-v3a0ext-IEs      | Class-definitions |                    |          |  |
| UECapabilityInformati on_v4b0ext             | UECapabilityInformati<br>on-v4b0ext          | Class-definitions |                    |          |  |
| UECapabilityInformati on_v590ext             | UECapabilityInformati<br>on-v590ext          | Class-definitions |                    |          |  |
| UECapabilityInformati onConfirm              | UECapabilityInformati onConfirm              | Class-definitions |                    |          |  |
| UECapabilityInformati onConfirm_r3_IEs       | UECapabilityInformati onConfirm-r3-IEs       | Class-definitions |                    |          |  |
| UplinkDirectTransfer                         | UplinkDirectTransfer                         | Class-definitions |                    |          |  |
| UplinkPhysicalChannel<br>Control             | UplinkPhysicalChannel<br>Control             | Class-definitions |                    |          |  |
| UplinkPhysicalChannel<br>Control_r3_IEs      | UplinkPhysicalChannel<br>Control-r3-IEs      | Class-definitions |                    |          |  |
| UplinkPhysicalChannel<br>Control_v4b0ext_IEs | UplinkPhysicalChannel<br>Control-v4b0ext-IEs | Class-definitions |                    |          |  |
| UplinkPhysicalChannel<br>Control_r4_IEs      | UplinkPhysicalChannel<br>Control-r4-IEs      | Class-definitions |                    |          |  |
| UplinkPhysicalChannel<br>Control_r5_IEs      | UplinkPhysicalChannel<br>Control-r5-IEs      | Class-definitions |                    |          |  |
| URAUpdate                                    | URAUpdate                                    | Class-definitions |                    |          |  |
| URAUpdateConfirm                             | URAUpdateConfirm                             | Class-definitions |                    |          |  |
| URAUpdateConfirm_r<br>3_IEs                  | URAUpdateConfirm-r<br>3-IEs                  | Class-definitions |                    |          |  |
| URAUpdateConfirm_r<br>5_IEs                  | URAUpdateConfirm-r<br>5-IEs                  | Class-definitions |                    |          |  |
| URAUpdateConfirm_<br>CCCH                    | URAUpdateConfirm-<br>CCCH                    | Class-definitions |                    |          |  |
| URAUpdateConfirm_<br>CCCH_r3_IEs             | URAUpdateConfirm-<br>CCCH-r3-IEs             | Class-definitions |                    |          |  |
| UTRANMobilityInform ation                    | UTRANMobilityInform ation                    | Class-definitions |                    |          |  |
| UTRANMobilityInform ation_r3_IEs             | UTRANMobilityInform ation-r3-IEs             | Class-definitions |                    |          |  |
| UTRANMobilityInform ation_v3a0ext_IEs        | UTRANMobilityInform ation-v3a0ext-IEs        | Class-definitions |                    |          |  |
| UTRANMobilityInform ation_r5_IEs             | UTRANMobilityInform ation-r5-IEs             | Class-definitions |                    |          |  |

|                                  | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|----------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                        | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| UTRANMobilityInform ationConfirm | UTRANMobilityInform ationConfirm    | Class-definitions |                    |          |  |
| UTRANMobilityInform ationFailure | UTRANMobilityInform ationFailure    | Class-definitions |                    |          |  |
| Ansi_41_IDNNS                    | Ansi-41-IDNNS                       | Class-definitions |                    |          |  |
| CN_DomainIdentity                | CN-DomainIdentity                   | Class-definitions |                    |          |  |
| CN_DomainInformation             | CN-DomainInformati on               | Class-definitions |                    |          |  |
| CN_DomainInformatio<br>nFull     | CN-DomainInformati onFull           | Class-definitions |                    |          |  |
| CN_DomainInformatio<br>nList     | CN-DomainInformati onList           | Class-definitions |                    |          |  |
| CN_DomainInformatio<br>nListFull | CN-DomainInformati onListFull       | Class-definitions |                    |          |  |
| CN_DomainSysInfo                 | CN-DomainSysInfo                    | Class-definitions |                    |          |  |
| CN_DomainSysInfoLi<br>st         | CN-DomainSysInfoLi<br>st            | Class-definitions |                    |          |  |
| CN_InformationInfo               | CN-InformationInfo                  | Class-definitions |                    |          |  |
| CN_InformationInfoF ull          | CN-InformationInfoF ull             | Class-definitions |                    |          |  |
| Digit                            | Digit                               | Class-definitions |                    |          |  |
| Gsm_map_IDNNS                    | Gsm-map-IDNNS                       | Class-definitions |                    |          |  |
| IMEI                             | IMEI                                | Class-definitions |                    |          |  |
| IMEI_Digit                       | IMEI-Digit                          | Class-definitions |                    |          |  |
| IMSI_GSM_MAP                     | IMSI-GSM-MAP                        | Class-definitions |                    |          |  |
| IntraDomainNasNode<br>Selector   | IntraDomainNasNode<br>Selector      | Class-definitions |                    |          |  |
| LAI                              | LAI                                 | Class-definitions |                    |          |  |
| MCC                              | MCC                                 | Class-definitions |                    |          |  |
| MNC                              | MNC                                 | Class-definitions |                    |          |  |
| NAS_Message                      | NAS-Message                         | Class-definitions |                    |          |  |
| NAS_Synchronisation _Indicator   | NAS–Synchronisation –Indicator      | Class-definitions |                    |          |  |
| NAS_SystemInformati onGSM_MAP    | NAS-SystemInformati onGSM-MAP       | Class-definitions |                    |          |  |
| P_TMSI_GSM_MAP                   | P-TMSI-GSM-MAP                      | Class-definitions |                    |          |  |
| PagingRecordTypeID               | PagingRecordTypeID                  | Class-definitions |                    |          |  |
| PLMN_Identity                    | PLMN-Identity                       | Class-definitions |                    |          |  |
| PLMN_Type                        | PLMN-Type                           | Class-definitions |                    |          |  |
| RAB_Identity                     | RAB-Identity                        | Class-definitions |                    |          |  |
| RAI                              | RAI                                 | Class-definitions |                    |          |  |
| RoutingAreaCode                  | RoutingAreaCode                     | Class-definitions |                    |          |  |
| RoutingParameter                 | RoutingParameter                    | Class-definitions |                    |          |  |
| TMSI_GSM_MAP                     | TMSI-GSM-MAP                        | Class-definitions |                    |          |  |
| AccessClassBarred                | AccessClassBarred                   | Class-definitions |                    |          |  |
| AccessClassBarredList            | AccessClassBarredList               | Class-definitions |                    |          |  |
| AllowedIndicator                 | AllowedIndicator                    | Class-definitions |                    |          |  |
| CellAccessRestriction            | CellAccessRestriction               | Class-definitions |                    |          |  |
| CellBarred                       | CellBarred                          | Class-definitions |                    |          |  |

|                                     | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| CellIdentity                        | CellIdentity                        | Class-definitions |                    |          |  |
| CellIdentity_PerRL_Li st            | CellIdentity-PerRL-Li st            | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>SIB_3_4   | CellSelectReselectInfo<br>SIB-3-4   | Class-definitions |                    |          |  |
| MapParameter                        | MapParameter                        | Class-definitions |                    |          |  |
| Mapping                             | Mapping                             | Class-definitions |                    |          |  |
| Mapping_LCR_r4                      | Mapping-LCR-r4                      | Class-definitions |                    |          |  |
| MappingFunctionPara<br>meter        | MappingFunctionPara meter           | Class-definitions |                    |          |  |
| MappingFunctionPara meterList       | MappingFunctionPara meterList       | Class-definitions |                    |          |  |
| MappingFunctionType                 | MappingFunctionType                 | Class-definitions |                    |          |  |
| MappingInfo                         | MappingInfo                         | Class-definitions |                    |          |  |
| Q_Hyst_S                            | Q-Hyst-S                            | Class-definitions |                    |          |  |
| Q_Hyst_S_Fine                       | Q-Hyst-S-Fine                       | Class-definitions |                    |          |  |
| RAT                                 | RAT                                 | Class-definitions |                    |          |  |
| RAT_FDD_Info                        | RAT-FDD-Info                        | Class-definitions |                    |          |  |
| RAT_FDD_InfoList                    | RAT-FDD-InfoList                    | Class-definitions |                    |          |  |
| RAT_Identifier                      | RAT-Identifier                      | Class-definitions |                    |          |  |
| RAT_TDD_Info                        | RAT-TDD-Info                        | Class-definitions |                    |          |  |
| RAT_TDD_InfoList                    | RAT-TDD-InfoList                    | Class-definitions |                    |          |  |
| ReservedIndicator                   | ReservedIndicator                   | Class-definitions |                    |          |  |
| S_SearchQual                        | S-SearchQual                        | Class-definitions |                    |          |  |
| S_SearchRXLEV                       | S-SearchRXLEV                       | Class-definitions |                    |          |  |
| T_Barred                            | T-Barred                            | Class-definitions |                    |          |  |
| T_Reselection_S                     | T-Reselection-S                     | Class-definitions |                    |          |  |
| T_Reselection_S_Fine                | T-Reselection-S-Fine                | Class-definitions |                    |          |  |
| UpperLimit                          | UpperLimit                          | Class-definitions |                    |          |  |
| URA_Identity                        | URA-Identity                        | Class-definitions |                    |          |  |
| URA_IdentityList                    | URA-IdentityList                    | Class-definitions |                    |          |  |
| AccessStratumRelease<br>Indicator   | AccessStratumRelease Indicator      | Class-definitions |                    |          |  |
| ActivationTime                      | ActivationTime                      | Class-definitions |                    |          |  |
| BackoffControlParam                 | BackoffControlParam                 | Class-definitions |                    |          |  |
| S                                   | S                                   |                   |                    |          |  |
| C_RNTI                              | C-RNTI                              | Class-definitions |                    |          |  |
| CapabilityUpdateRequi rement        | CapabilityUpdateRequi rement        | Class-definitions |                    |          |  |
| CapabilityUpdateRequi rement_r4_ext | CapabilityUpdateRequi rement-r4-ext | Class-definitions |                    |          |  |
| CapabilityUpdateRequi rement_r4     | CapabilityUpdateRequi rement-r4     | Class-definitions |                    |          |  |
| CellUpdateCause                     | CellUpdateCause                     | Class-definitions |                    |          |  |
| ChipRateCapability                  | ChipRateCapability                  | Class-definitions |                    |          |  |
| CipheringAlgorithm                  | CipheringAlgorithm                  | Class-definitions |                    |          |  |
| CipheringModeComm and               | CipheringModeComm and               | Class-definitions |                    |          |  |
| CipheringModeInfo                   | CipheringModeInfo                   | Class-definitions |                    |          |  |

| Continued from previous pag                  | ASN.1 Type Definitions By Reference          |                   |                    |          |  |
|--|--|-------------------|--------------------|----------|--|
| Type Name                                    | Type Reference                               | Module Identifier | Encoding Variation | Comments |  |
| CN_DRX_CycleLengt hCoefficient               | CN-DRX-CycleLengt hCoefficient               | Class-definitions |                    |          |  |
| CN_PagedUE_Identit y                         | CN-PagedUE-Identit y                         | Class-definitions |                    |          |  |
| CompressedModeMea sCapability                | CompressedModeMea sCapability                | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapability_LCR_r4      | CompressedModeMea<br>sCapability-LCR-r4      | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabFDDList           | CompressedModeMea sCapabFDDList              | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabFDD               | CompressedModeMea<br>sCapabFDD               | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabTDDList           | CompressedModeMea<br>sCapabTDDList           | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabTDD               | CompressedModeMea<br>sCapabTDD               | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabGSMList           | CompressedModeMea<br>sCapabGSMList           | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabGSM               | CompressedModeMea<br>sCapabGSM               | Class-definitions |                    |          |  |
| CompressedModeMea<br>sCapabMC                | CompressedModeMea<br>sCapabMC                | Class-definitions |                    |          |  |
| CPCH_Parameters                              | CPCH-Parameters                              | Class-definitions |                    |          |  |
| DL_CapabilityWithSim ultaneousHS_DSCHC onfig | DL–CapabilityWithSim ultaneousHS–DSCHC onfig | Class-definitions |                    |          |  |
| DL_DPCCH_BER                                 | DL-DPCCH-BER                                 | Class-definitions |                    |          |  |
| DL_PhysChCapability<br>FDD                   | DL-PhysChCapability<br>FDD                   | Class-definitions |                    |          |  |
| DL_PhysChCapability<br>FDD_v380ext           | DL-PhysChCapability<br>FDD-v380ext           | Class-definitions |                    |          |  |
| SupportOfDedicatedPi<br>lotsForChEstimation  | SupportOfDedicatedPi<br>lotsForChEstimation  | Class-definitions |                    |          |  |
| DL_PhysChCapability<br>TDD                   | DL-PhysChCapability<br>TDD                   | Class-definitions |                    |          |  |
| DL_PhysChCapability<br>TDD_LCR_r4            | DL-PhysChCapability<br>TDD-LCR-r4            | Class-definitions |                    |          |  |
| DL_TransChCapability                         | DL-TransChCapability                         | Class-definitions |                    |          |  |
| DRAC_SysInfo                                 | DRAC-SysInfo                                 | Class-definitions |                    |          |  |
| DRAC_SysInfoList                             | DRAC-SysInfoList                             | Class-definitions |                    |          |  |
| DSCH_RNTI                                    | DSCH-RNTI                                    | Class-definitions |                    |          |  |
| ESN_DS_41                                    | ESN-DS-41                                    | Class-definitions |                    |          |  |
| EstablishmentCause                           | EstablishmentCause                           | Class-definitions |                    |          |  |
| FailureCauseWithProt<br>Err                  | FailureCauseWithProt<br>Err                  | Class-definitions |                    |          |  |
| FailureCauseWithProt<br>ErrTrld              | FailureCauseWithProt<br>ErrTrld              | Class-definitions |                    |          |  |
| GroupIdentityWithRele aseInformation         | GroupIdentityWithRele aseInformation         | Class-definitions |                    |          |  |
| GroupReleaseInformati on                     | GroupReleaseInformati<br>on                  | Class-definitions |                    |          |  |
| GSM_Measurements                             | GSM-Measurements                             | Class-definitions |                    |          |  |

| ASN.1 Type Definitions By Reference  |                                      |                   |                    |          |
|--------------------------------------|--------------------------------------|-------------------|--------------------|----------|
| Type Name                            | Type Reference                       | Module Identifier | Encoding Variation | Comments |
| H_RNTI                               | H-RNTI                               | Class-definitions |                    |          |
| HSDSCH_physical_la yer_category      | HSDSCH-physical-la<br>yer-category   | Class-definitions |                    |          |
| UESpecificBehaviourI nformation1idle | UESpecificBehaviourl nformation1idle | Class-definitions |                    |          |
| IMSI_and_ESN_DS_<br>41               | IMSI-and-ESN-DS-<br>41               | Class-definitions |                    |          |
| IMSI_DS_41                           | IMSI-DS-41                           | Class-definitions |                    |          |
| InitialPriorityDelayList             | InitialPriorityDelayList             | Class-definitions |                    |          |
| InitialUE_Identity                   | InitialUE-Identity                   | Class-definitions |                    |          |
| IntegrityCheckInfo                   | IntegrityCheckInfo                   | Class-definitions |                    |          |
| IntegrityProtActivatio nInfo         | IntegrityProtActivatio nInfo         | Class-definitions |                    |          |
| IntegrityProtectionAlg orithm        | IntegrityProtectionAlg orithm        | Class-definitions |                    |          |
| IntegrityProtectionMo deCommand      | IntegrityProtectionMo deCommand      | Class-definitions |                    |          |
| IntegrityProtectionMo deInfo         | IntegrityProtectionMo deInfo         | Class-definitions |                    |          |
| IntegrityProtInitNumb er             | IntegrityProtInitNumb er             | Class-definitions |                    |          |
| MaxHcContextSpace                    | MaxHcContextSpace                    | Class-definitions |                    |          |
| MaxHcContextSpace<br>_r5_ext         | MaxHcContextSpace<br>-r5-ext         | Class-definitions |                    |          |
| MaxROHC_ContextS essions_r4          | MaxROHC-ContextS essions-r4          | Class-definitions |                    |          |
| MaximumAM_EntityN umberRLC_Cap       | MaximumAM-EntityN umberRLC-Cap       | Class-definitions |                    |          |
| MaximumBitRate                       | MaximumBitRate                       | Class-definitions |                    |          |
| MaximumRLC_Windo wSize               | MaximumRLC-Windo wSize               | Class-definitions |                    |          |
| MaxNoDPDCH_BitsT ransmitted          | MaxNoDPDCH-BitsT ransmitted          | Class-definitions |                    |          |
| MaxNoBits                            | MaxNoBits                            | Class-definitions |                    |          |
| MaxNoPhysChBitsRe ceived             | MaxNoPhysChBitsRe ceived             | Class-definitions |                    |          |
| MaxNoSCCPCH_RL                       | MaxNoSCCPCH-RL                       | Class-definitions |                    |          |
| MaxNumberOfTF                        | MaxNumberOfTF                        | Class-definitions |                    |          |
| MaxNumberOfTFC_D<br>L                | MaxNumberOfTFC-D<br>L                | Class-definitions |                    |          |
| MaxNumberOfTFC_U<br>L                | MaxNumberOfTFC-U<br>L                | Class-definitions |                    |          |
| MaxPhysChPerFrame                    | MaxPhysChPerFrame                    | Class-definitions |                    |          |
| MaxPhysChPerSubFr<br>ame_r4          | MaxPhysChPerSubFr<br>ame-r4          | Class-definitions |                    |          |
| MaxPhysChPerTimesl ot                | MaxPhysChPerTimesl ot                | Class-definitions |                    |          |
| MaxPhysChPerTS                       | MaxPhysChPerTS                       | Class-definitions |                    |          |
| MaxSimultaneousCCTr<br>CH_Count      | MaxSimultaneousCCTr<br>CH-Count      | Class-definitions |                    |          |
| MaxSimultaneousTrans<br>ChsDL        | MaxSimultaneousTrans<br>ChsDL        | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference |                                     |                   |                    |          |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |
| MaxSimultaneousTrans<br>ChsUL       | MaxSimultaneousTrans<br>ChsUL       | Class-definitions |                    |          |
| MaxTransportBlocksD<br>L            | MaxTransportBlocksD<br>L            | Class-definitions |                    |          |
| MaxTransportBlocksU<br>L            | MaxTransportBlocksU                 | Class-definitions |                    |          |
| MaxTS_PerFrame                      | MaxTS-PerFrame                      | Class-definitions |                    |          |
| MaxTS_PerSubFrame<br>_r4            | MaxTS-PerSubFrame<br>-r4            | Class-definitions |                    |          |
| MeasurementCapabilit y              | MeasurementCapabilit y              | Class-definitions |                    |          |
| MeasurementCapabilit yExt           | MeasurementCapabilit yExt           | Class-definitions |                    |          |
| MeasurementCapabilit y_r4_ext       | MeasurementCapabilit y-r4-ext       | Class-definitions |                    |          |
| MessageAuthenticatio nCode          | MessageAuthenticatio nCode          | Class-definitions |                    |          |
| MinimumSF_DL                        | MinimumSF-DL                        | Class-definitions |                    |          |
| MinimumSF_UL                        | MinimumSF-UL                        | Class-definitions |                    |          |
| MultiModeCapability                 | MultiModeCapability                 | Class-definitions |                    |          |
| MultiRAT_Capability                 | MultiRAT-Capability                 | Class-definitions |                    |          |
| MultiModeRAT_Capabi<br>lity_v590ext | MultiModeRAT-Capab<br>ility-v590ext | Class-definitions |                    |          |
| N_300                               | N-300                               | Class-definitions |                    |          |
| N_301                               | N-301                               | Class-definitions |                    |          |
| N_302                               | N-302                               | Class-definitions |                    |          |
| N_304                               | N-304                               | Class-definitions |                    |          |
| N_308                               | N-308                               | Class-definitions |                    |          |
| N_310                               | N-310                               | Class-definitions |                    |          |
| N_312                               | N-312                               | Class-definitions |                    |          |
| N_312ext                            | N-312ext                            | Class-definitions |                    |          |
| N_312_r5                            | N-312-r5                            | Class-definitions |                    |          |
| N_313                               | N-313                               | Class-definitions |                    |          |
| N_315                               | N-315                               | Class-definitions |                    |          |
| N_315ext                            | N-315ext                            | Class-definitions |                    |          |
| N_315_r5                            | N-315-r5                            | Class-definitions |                    |          |
| N_AccessFails                       | N-AccessFails                       | Class-definitions |                    |          |
| N_AP_RetransMax                     | N-AP-RetransMax                     | Class-definitions |                    |          |
| NetworkAssistedGPS<br>_Supported    | NetworkAssistedGPS –Supported       | Class-definitions |                    |          |
| NF_BO_AllBusy                       | NF-BO-AllBusy                       | Class-definitions |                    |          |
| NF_BO_NoAICH                        | NF-BO-NoAICH                        | Class-definitions |                    |          |
| NF_BO_Mismatch                      | NF-BO-Mismatch                      | Class-definitions |                    |          |
| NS_BO_Busy                          | NS-BO-Busy                          | Class-definitions |                    |          |
| NS_IP                               | NS-IP                               | Class-definitions |                    |          |
| P_TMSI_and_RAI_GS<br>M_MAP          | P-TMSI-and-RAI-G<br>SM-MAP          | Class-definitions |                    |          |
| -<br>PagingCause                    | PagingCause                         | Class-definitions |                    |          |
| PagingRecord                        | PagingRecord                        | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference   |                                       |                   |                    |          |  |  |
|---------------------------------------|---------------------------------------|-------------------|--------------------|----------|--|--|
| Type Name                             | Type Reference                        | Module Identifier | Encoding Variation | Comments |  |  |
| PagingRecord2_r5                      | PagingRecord2-r5                      | Class-definitions |                    |          |  |  |
| PagingRecordList                      | PagingRecordList                      | Class-definitions |                    |          |  |  |
| PagingRecord2List_r5                  | PagingRecord2List-r5                  | Class-definitions |                    |          |  |  |
| PDCP_Capability                       | PDCP-Capability                       | Class-definitions |                    |          |  |  |
| PDCP_Capability_r4_<br>ext            | PDCP-Capability-r4<br>-ext            | Class-definitions |                    |          |  |  |
| PDCP_Capability_r5_<br>ext            | PDCP-Capability-r5 -ext               | Class-definitions |                    |          |  |  |
| PhysicalChannelCapab ility            | PhysicalChannelCapab ility            | Class-definitions |                    |          |  |  |
| PhysicalChannelCapab ility_LCR_r4     | PhysicalChannelCapab ility-LCR-r4     | Class-definitions |                    |          |  |  |
| PhysicalChannelCapab ility_hspdsch_r5 | PhysicalChannelCapab ility-hspdsch-r5 | Class-definitions |                    |          |  |  |
| PNBSCH_Allocation_<br>r4              | PNBSCH-Allocation-<br>r4              | Class-definitions |                    |          |  |  |
| ProtocolErrorCause                    | ProtocolErrorCause                    | Class-definitions |                    |          |  |  |
| ProtocolErrorIndicato<br>r            | ProtocolErrorIndicato<br>r            | Class-definitions |                    |          |  |  |
| ProtocolErrorIndicato rWithMoreInfo   | ProtocolErrorIndicato rWithMoreInfo   | Class-definitions |                    |          |  |  |
| ProtocolErrorMoreInf ormation         | ProtocolErrorMoreInf ormation         | Class-definitions |                    |          |  |  |
| RadioFrequencyBandF<br>DD             | RadioFrequencyBandF<br>DD             | Class-definitions |                    |          |  |  |
| RadioFrequencyBandT<br>DDList         | RadioFrequencyBandT<br>DDList         | Class-definitions |                    |          |  |  |
| RadioFrequencyBandT<br>DD             | RadioFrequencyBandT<br>DD             | Class-definitions |                    |          |  |  |
| RadioFrequencyBandG<br>SM             | RadioFrequencyBandG<br>SM             | Class-definitions |                    |          |  |  |
| Rb_timer_indicator                    | Rb-timer-indicator                    | Class-definitions |                    |          |  |  |
| Re_EstablishmentTime r                | Re–EstablishmentTime r                | Class-definitions |                    |          |  |  |
| RedirectionInfo                       | RedirectionInfo                       | Class-definitions |                    |          |  |  |
| RejectionCause                        | RejectionCause                        | Class-definitions |                    |          |  |  |
| ReleaseCause                          | ReleaseCause                          | Class-definitions |                    |          |  |  |
| RF_Capability                         | RF-Capability                         | Class-definitions |                    |          |  |  |
| RF_Capability_r4_ext                  | RF-Capability-r4-ext                  | Class-definitions |                    |          |  |  |
| RLC_Capability                        | RLC-Capability                        | Class-definitions |                    |          |  |  |
| RLC_Capability_r5_ex<br>t             | RLC-Capability-r5-e<br>xt             | Class-definitions |                    |          |  |  |
| RRC_ConnectionRele aseInformation     | RRC–ConnectionRele aseInformation     | Class-definitions |                    |          |  |  |
| RRC_MessageSequen ceNumber            | RRC-MessageSequen ceNumber            | Class-definitions |                    |          |  |  |
| RRC_MessageSequen ceNumberList        | RRC-MessageSequen ceNumberList        | Class-definitions |                    |          |  |  |
| RRC_StateIndicator                    | RRC-StateIndicator                    | Class-definitions |                    |          |  |  |
| RRC_TransactionIdent ifier            | RRC-TransactionIden tifier            | Class-definitions |                    |          |  |  |

| ASN.1 Type Definitions By Reference   |                                       |                                     |                    |          |  |  |
|---------------------------------------|---------------------------------------|-------------------------------------|--------------------|----------|--|--|
| Type Name                             | Type Reference                        | Module Identifier                   | Encoding Variation | Comments |  |  |
| S_RNTI                                | S-RNTI                                | Class-definitions                   |                    |          |  |  |
| SecurityCapability                    | SecurityCapability                    | Class-definitions                   |                    |          |  |  |
| SimultaneousSCCPC<br>H_DPCH_Reception | SimultaneousSCCPC<br>H-DPCH-Reception | Class-definitions                   |                    |          |  |  |
| SRNC_Identity                         | SRNC-Identity                         | Class-definitions                   |                    |          |  |  |
| START_Value                           | START-Value                           | Class-definitions                   |                    |          |  |  |
| STARTList                             | STARTList                             | Class-definitions                   |                    |          |  |  |
| STARTSingle                           | STARTSingle                           | Class-definitions                   |                    |          |  |  |
| CapabilityUpdateRequi rement_r5       | CapabilityUpdateRequi rement-r5       | Class-definitions                   |                    |          |  |  |
| SystemSpecificCapUp dateReq           | SystemSpecificCapUp dateReq           | Class-definitions                   |                    |          |  |  |
| SystemSpecificCapUp dateReq_v590ext   | SystemSpecificCapUp dateReq-v590ext   | Class-definitions                   |                    |          |  |  |
| SystemSpecificCapUp dateReq_r5        | SystemSpecificCapUp dateReq-r5        | Class-definitions                   |                    |          |  |  |
| SystemSpecificCapUp dateReqList       | SystemSpecificCapUp dateReqList       | Class-definitions                   |                    |          |  |  |
| SystemSpecificCapUp dateReqList_r5    | SystemSpecificCapUp dateReqList-r5    | Class-definitions                   |                    |          |  |  |
| T_300                                 | T-300                                 | Class-definitions                   |                    |          |  |  |
| T_301                                 | T-301                                 | Class-definitions                   |                    |          |  |  |
| T_302                                 | T-302                                 | Class-definitions                   |                    |          |  |  |
| T_304                                 | T-304                                 | Class-definitions                   |                    |          |  |  |
| T_305                                 | T-305                                 | Class-definitions                   |                    |          |  |  |
| T_307                                 | T-307                                 | Class-definitions                   |                    |          |  |  |
| T_308                                 | T-308                                 | Class-definitions                   |                    |          |  |  |
| T_309                                 | T-309                                 | Class-definitions                   |                    |          |  |  |
| T_310                                 | T-310                                 | Class-definitions                   |                    |          |  |  |
| T_311                                 | T-311                                 | Class-definitions                   |                    |          |  |  |
| T_312                                 | T-312                                 | Class-definitions                   |                    |          |  |  |
| T_313                                 | T-313                                 | Class-definitions                   |                    |          |  |  |
| T_314                                 | T-314                                 | Class-definitions Class-definitions |                    |          |  |  |
| T_315<br>T_316                        | T-315<br>T-316                        | Class-definitions                   |                    |          |  |  |
| T_317                                 | T-317                                 | Class-definitions                   |                    |          |  |  |
| T_CPCH                                | T-CPCH                                | Class-definitions                   |                    |          |  |  |
| TMSI_and_LAI_GSM_<br>MAP              | TMSI-and-LAI-GSM                      | Class-definitions                   |                    |          |  |  |
| TMSI_DS_41                            | TMSI-DS-41                            | Class-definitions                   |                    |          |  |  |
| TotalRLC_AM_Buffer<br>Size            | TotalRLC-AM-Buffer<br>Size            | Class-definitions                   |                    |          |  |  |
| TotalRLC_AM_Buffer<br>Size_r5_ext     | TotalRLC-AM-Buffer<br>Size-r5-ext     | Class-definitions                   |                    |          |  |  |
| TransmissionProbabilit                | TransmissionProbabilit y              | Class-definitions                   |                    |          |  |  |
| TransportChannelCap ability           | TransportChannelCap ability           | Class-definitions                   |                    |          |  |  |
| TurboSupport                          | TurboSupport                          | Class-definitions                   |                    |          |  |  |

|                                       | ASN.1 Type Definitions By Reference   |                                      |                    |          |  |
|---------------------------------------|---------------------------------------|--------------------------------------|--------------------|----------|--|
| Type Name                             | Type Reference                        | Module Identifier                    | Encoding Variation | Comments |  |
| TxRxFrequencySepara                   | TxRxFrequencySepara                   | Class-definitions                    |                    |          |  |
| tion                                  | tion<br>U-RNTI                        | Class-definitions                    |                    |          |  |
| U_RNTI<br>LL PNTL Group               | U-RNTI-Group                          | Class-definitions                    |                    |          |  |
| U_RNTI_Group UE_ConnTimersAndC        | UE-ConnTimersAndC                     | Class-definitions  Class-definitions |                    |          |  |
| onstants                              | onstants                              |                                      |                    |          |  |
| UE_ConnTimersAndC<br>onstants_v3a0ext | UE-ConnTimersAndC<br>onstants-v3a0ext | Class-definitions                    |                    |          |  |
| UE_ConnTimersAndC onstants_r5         | UE-ConnTimersAndC onstants-r5         | Class-definitions                    |                    |          |  |
| UE_IdleTimersAndCon stants            | UE-IdleTimersAndCo<br>nstants         | Class-definitions                    |                    |          |  |
| UE_IdleTimersAndCon stants_v3a0ext    | UE-IdleTimersAndCo<br>nstants-v3a0ext | Class-definitions                    |                    |          |  |
| UE_MultiModeRAT_C apability           | UE-MultiModeRAT-C apability           | Class-definitions                    |                    |          |  |
| UE_PowerClass                         | UE-PowerClass                         | Class-definitions                    |                    |          |  |
| UE_PowerClassExt                      | UE-PowerClassExt                      | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa bility             | UE-RadioAccessCapa bility             | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa bility_v370ext     | UE-RadioAccessCapa bility-v370ext     | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa<br>bility_v380ext  | UE-RadioAccessCapa<br>bility-v380ext  | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa<br>bility_v3a0ext  | UE-RadioAccessCapa<br>bility-v3a0ext  | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa<br>bility_v3g0ext  | UE-RadioAccessCapa<br>bility-v3g0ext  | Class-definitions                    |                    |          |  |
| UE_PositioningCapabi<br>lityExt_v380  | UE-PositioningCapab<br>ilityExt-v380  | Class-definitions                    |                    |          |  |
| UE_PositioningCapabi<br>lityExt_v3a0  | UE-PositioningCapab ilityExt-v3a0     | Class-definitions                    |                    |          |  |
| UE_PositioningCapabi<br>lityExt_v3g0  | UE-PositioningCapab<br>ilityExt-v3g0  | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa bBandFDDList       | UE-RadioAccessCapa<br>bBandFDDList    | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa<br>bBandFDD        | UE-RadioAccessCapa<br>bBandFDD        | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa bility_v4b0ext     | UE-RadioAccessCapa<br>bility-v4b0ext  | Class-definitions                    |                    |          |  |
| UE_RadioAccessCapa<br>bility_v590ext  | UE-RadioAccessCapa<br>bility-v590ext  | Class-definitions                    |                    |          |  |
| UL_PhysChCapability FDD               | UL-PhysChCapability FDD               | Class-definitions                    |                    |          |  |
| UL_PhysChCapability<br>TDD            | UL-PhysChCapability TDD               | Class-definitions                    |                    |          |  |
| UL_PhysChCapability<br>TDD_LCR_r4     | UL-PhysChCapability<br>TDD-LCR-r4     | Class-definitions                    |                    |          |  |
| UL_TransChCapability                  | UL-TransChCapability                  | Class-definitions                    |                    |          |  |
| UE_Positioning_Capa bility            | UE-Positioning-Capa bility            | Class-definitions                    |                    |          |  |
| URA_UpdateCause                       | URA-UpdateCause                       | Class-definitions                    |                    |          |  |

|                                     | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| UTRAN_DRX_CycleLe ngthCoefficient   | UTRAN-DRX-CycleL engthCoefficient   | Class-definitions |                    |          |  |
| WaitTime                            | WaitTime                            | Class-definitions |                    |          |  |
| AlgorithmSpecificInfo               | AlgorithmSpecificInfo               | Class-definitions |                    |          |  |
| AlgorithmSpecificInfo<br>_r4        | AlgorithmSpecificInfo<br>-r4        | Class-definitions |                    |          |  |
| CID_InclusionInfo_r4                | CID-InclusionInfo-r4                | Class-definitions |                    |          |  |
| COUNT_C                             | COUNT-C                             | Class-definitions |                    |          |  |
| COUNT_C_MSB                         | COUNT-C-MSB                         | Class-definitions |                    |          |  |
| DefaultConfigIdentity<br>_r5        | DefaultConfigldentity<br>-r5        | Class-definitions |                    |          |  |
| DefaultConfigMode                   | DefaultConfigMode                   | Class-definitions |                    |          |  |
| DL_AM_RLC_Mode                      | DL-AM-RLC-Mode                      | Class-definitions |                    |          |  |
| DL_AM_RLC_Mode_r<br>5               | DL-AM-RLC-Mode-<br>r5               | Class-definitions |                    |          |  |
| DL_CounterSynchroni sationInfo      | DL-CounterSynchron isationInfo      | Class-definitions |                    |          |  |
| DL_CounterSynchroni sationInfo_r5   | DL-CounterSynchron isationInfo-r5   | Class-definitions |                    |          |  |
| DL_LogicalChannelMa<br>pping        | DL-LogicalChannelMa pping           | Class-definitions |                    |          |  |
| DL_LogicalChannelMa<br>pping_r5     | DL-LogicalChannelMa<br>pping-r5     | Class-definitions |                    |          |  |
| DL_LogicalChannelMa<br>ppingList    | DL-LogicalChannelMa ppingList       | Class-definitions |                    |          |  |
| DL_LogicalChannelMa<br>ppingList_r5 | DL-LogicalChannelMa<br>ppingList-r5 | Class-definitions |                    |          |  |
| DL_RFC3095_r4                       | DL-RFC3095-r4                       | Class-definitions |                    |          |  |
| DL_RLC_Mode                         | DL-RLC-Mode                         | Class-definitions |                    |          |  |
| DL_RLC_Mode_r5                      | DL-RLC-Mode-r5                      | Class-definitions |                    |          |  |
| DL_RLC_StatusInfo                   | DL-RLC-StatusInfo                   | Class-definitions |                    |          |  |
| DL_TM_RLC_Mode                      | DL-TM-RLC-Mode                      | Class-definitions |                    |          |  |
| DL_TransportChannel<br>Type         | DL-TransportChannel Type            | Class-definitions |                    |          |  |
| DL_TransportChannel<br>Type_r5      | DL-TransportChannel<br>Type-r5      | Class-definitions |                    |          |  |
| DL_UM_RLC_LI_size                   | DL-UM-RLC-LI-siz<br>e               | Class-definitions |                    |          |  |
| DL_UM_RLC_Mode_<br>r5               | DL-UM-RLC-Mode<br>-r5               | Class-definitions |                    |          |  |
| ExpectReordering                    | ExpectReordering                    | Class-definitions |                    |          |  |
| ExplicitDiscard                     | ExplicitDiscard                     | Class-definitions |                    |          |  |
| HeaderCompressionIn fo              | HeaderCompressionIn fo              | Class-definitions |                    |          |  |
| HeaderCompressionIn foList          | HeaderCompressionIn foList          | Class-definitions |                    |          |  |
| HeaderCompressionIn fo_r4           | HeaderCompressionIn fo-r4           | Class-definitions |                    |          |  |
| HeaderCompressionIn foList_r4       | HeaderCompressionIn foList-r4       | Class-definitions |                    |          |  |
| LogicalChannelIdentity              | LogicalChannelIdentity              | Class-definitions |                    |          |  |

|                                 | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|---------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                       | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| LosslessSRNS_Reloc<br>Support   | LosslessSRNS-Reloc<br>Support       | Class-definitions |                    |          |  |
| MAC_d_HFN_initial_v alue        | MAC-d-HFN-initial-<br>value         | Class-definitions |                    |          |  |
| MAC_LogicalChannel<br>Priority  | MAC-LogicalChannel<br>Priority      | Class-definitions |                    |          |  |
| MaxDAT                          | MaxDAT                              | Class-definitions |                    |          |  |
| MaxDAT_Retransmissi ons         | MaxDAT-Retransmissi ons             | Class-definitions |                    |          |  |
| MaxMRW                          | MaxMRW                              | Class-definitions |                    |          |  |
| MaxPDCP_SN_Wind owSize          | MaxPDCP-SN-Wind owSize              | Class-definitions |                    |          |  |
| MaxRST                          | MaxRST                              | Class-definitions |                    |          |  |
| NoExplicitDiscard               | NoExplicitDiscard                   | Class-definitions |                    |          |  |
| PDCP_Info                       | PDCP-Info                           | Class-definitions |                    |          |  |
| PDCP_Info_r4                    | PDCP-Info-r4                        | Class-definitions |                    |          |  |
| PDCP_InfoReconfig               | PDCP-InfoReconfig                   | Class-definitions |                    |          |  |
| PDCP_InfoReconfig_<br>r4        | PDCP-InfoReconfig-<br>r4            | Class-definitions |                    |          |  |
| PDCP_PDU_Header                 | PDCP-PDU-Header                     | Class-definitions |                    |          |  |
| PDCP_SN_Info                    | PDCP-SN-Info                        | Class-definitions |                    |          |  |
| Poll_PDU                        | Poll-PDU                            | Class-definitions |                    |          |  |
| Poll_SDU                        | Poll-SDU                            | Class-definitions |                    |          |  |
| PollingInfo                     | PollingInfo                         | Class-definitions |                    |          |  |
| PollWindow                      | PollWindow                          | Class-definitions |                    |          |  |
| PredefinedConfiglden tity       | PredefinedConfiglden tity           | Class-definitions |                    |          |  |
| PredefinedConfigValu<br>eTag    | PredefinedConfigValu<br>eTag        | Class-definitions |                    |          |  |
| PredefinedRB_Config uration     | PredefinedRB–Config uration         | Class-definitions |                    |          |  |
| PreDefRadioConfigura tion       | PreDefRadioConfigura tion           | Class-definitions |                    |          |  |
| RAB_Info                        | RAB-Info                            | Class-definitions |                    |          |  |
| RAB_InformationList             | RAB-InformationList                 | Class-definitions |                    |          |  |
| RAB_InformationReconfigList     | RAB–InformationReconfigList         | Class-definitions |                    |          |  |
| RAB_InformationReconfig         | RAB–InformationReconfig             | Class-definitions |                    |          |  |
| RAB_InformationSetu p           | RAB-InformationSetu p               | Class-definitions |                    |          |  |
| RAB_InformationSetu<br>p_r4     | RAB-InformationSetu<br>p-r4         | Class-definitions |                    |          |  |
| RAB_InformationSetu<br>p_r5     | RAB–InformationSetu<br>p–r5         | Class-definitions |                    |          |  |
| RAB_InformationSetu<br>pList    | RAB–InformationSetu pList           | Class-definitions |                    |          |  |
| RAB_InformationSetu<br>pList_r4 | RAB–InformationSetu<br>pList–r4     | Class-definitions |                    |          |  |
| RAB_InformationSetu<br>pList_r5 | RAB-InformationSetu<br>pList-r5     | Class-definitions |                    |          |  |

| Continued from previous pa         | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                          | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| RB_ActivationTimeInf               | RB-ActivationTimeInf                | Class-definitions |                    |          |  |
| o RB_ActivationTimeInf             | RB–ActivationTimeInf                | Class-definitions |                    |          |  |
| oList  RB_COUNT_C_Information      | RB-COUNT-C-Information              | Class-definitions |                    |          |  |
| RB_COUNT_C_InformationList         | RB-COUNT-C-Infor                    | Class-definitions |                    |          |  |
| RB_COUNT_C_MSB<br>_Information     | RB-COUNT-C-MSB -Information         | Class-definitions |                    |          |  |
| RB_COUNT_C_MSB<br>_InformationList | RB-COUNT-C-MSB -InformationList     | Class-definitions |                    |          |  |
| RB_Identity                        | RB-Identity                         | Class-definitions |                    |          |  |
| RB_IdentityList                    | RB-IdentityList                     | Class-definitions |                    |          |  |
| RB_InformationAffect ed            | RB–InformationAffect ed             | Class-definitions |                    |          |  |
| RB_InformationAffect ed_r5         | RB–InformationAffect ed–r5          | Class-definitions |                    |          |  |
| RB_InformationAffect edList        | RB–InformationAffect edList         | Class-definitions |                    |          |  |
| RB_InformationAffect edList_r5     | RB–InformationAffect edList–r5      | Class-definitions |                    |          |  |
| RB_InformationRecon fig            | RB-InformationRecon fig             | Class-definitions |                    |          |  |
| RB_InformationRecon fig_r4         | RB-InformationRecon fig-r4          | Class-definitions |                    |          |  |
| RB_InformationRecon fig_r5         | RB-InformationRecon fig-r5          | Class-definitions |                    |          |  |
| RB_InformationRecon figList        | RB-InformationRecon figList         | Class-definitions |                    |          |  |
| RB_InformationRecon figList_r4     | RB-InformationRecon figList-r4      | Class-definitions |                    |          |  |
| RB_InformationRecon figList_r5     | RB-InformationRecon figList-r5      | Class-definitions |                    |          |  |
| RB_InformationReleas eList         | RB-InformationReleas eList          | Class-definitions |                    |          |  |
| RB_InformationSetup                | RB-InformationSetup                 | Class-definitions |                    |          |  |
| RB_InformationSetup<br>_r4         | RB-InformationSetup<br>-r4          | Class-definitions |                    |          |  |
| RB_InformationSetup<br>_r5         | RB-InformationSetup<br>-r5          | Class-definitions |                    |          |  |
| RB_InformationSetup<br>List        | RB-InformationSetup<br>List         | Class-definitions |                    |          |  |
| RB_InformationSetup<br>List_r4     | RB-InformationSetup<br>List-r4      | Class-definitions |                    |          |  |
| RB_InformationSetup<br>List_r5     | RB-InformationSetup<br>List-r5      | Class-definitions |                    |          |  |
| RB_MappingInfo                     | RB-MappingInfo                      | Class-definitions |                    |          |  |
| RB_MappingInfo_r5                  | RB-MappingInfo-r5                   | Class-definitions |                    |          |  |
| RB_MappingOption                   | RB-MappingOption                    | Class-definitions |                    |          |  |
| RB_MappingOption_r<br>5            | RB-MappingOption-r<br>5             | Class-definitions |                    |          |  |

|                                 | ASN.1 Type Definitions By Reference |                   |                    |          |  |
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| Type Name                       | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| RB_PDCPContextRel ocation       | RB-PDCPContextRel ocation           | Class-definitions |                    |          |  |
| RB_PDCPContextRel ocationList   | RB-PDCPContextRel ocationList       | Class-definitions |                    |          |  |
| RB_StopContinue                 | RB-StopContinue                     | Class-definitions |                    |          |  |
| RB_WithPDCP_Info                | RB-WithPDCP-Info                    | Class-definitions |                    |          |  |
| RB_WithPDCP_InfoLi<br>st        | RB-WithPDCP-InfoL ist               | Class-definitions |                    |          |  |
| ReceivingWindowSize             | ReceivingWindowSize                 | Class-definitions |                    |          |  |
| RFC2507_Info                    | RFC2507-Info                        | Class-definitions |                    |          |  |
| RFC3095_Info_r4                 | RFC3095-Info-r4                     | Class-definitions |                    |          |  |
| RLC_Info                        | RLC-Info                            | Class-definitions |                    |          |  |
| RLC_Info_r5                     | RLC-Info-r5                         | Class-definitions |                    |          |  |
| RLC_InfoChoice                  | RLC-InfoChoice                      | Class-definitions |                    |          |  |
| RLC_InfoChoice_r5               | RLC-InfoChoice-r5                   | Class-definitions |                    |          |  |
| RLC_SequenceNumbe r             | RLC-SequenceNumbe r                 | Class-definitions |                    |          |  |
| RLC_SizeInfo                    | RLC-SizeInfo                        | Class-definitions |                    |          |  |
| RLC_SizeExplicitList            | RLC-SizeExplicitList                | Class-definitions |                    |          |  |
| ROHC_Profile_r4                 | ROHC-Profile-r4                     | Class-definitions |                    |          |  |
| ROHC_ProfileList_r4             | ROHC-ProfileList-r4                 | Class-definitions |                    |          |  |
| ROHC_PacketSize_r4              | ROHC-PacketSize-r4                  | Class-definitions |                    |          |  |
| ROHC_PacketSizeList<br>_r4      | ROHC-PacketSizeList<br>-r4          | Class-definitions |                    |          |  |
| SRB_InformationSetu<br>p        | SRB-InformationSetu                 | Class-definitions |                    |          |  |
| SRB_InformationSetu<br>p_r5     | SRB-InformationSetu<br>p-r5         | Class-definitions |                    |          |  |
| SRB_InformationSetu<br>pList    | SRB-InformationSetu pList           | Class-definitions |                    |          |  |
| SRB_InformationSetu<br>pList_r5 | SRB-InformationSetu pList-r5        | Class-definitions |                    |          |  |
| SRB_InformationSetu pList2      | SRB-InformationSetu pList2          | Class-definitions |                    |          |  |
| TimerDiscard                    | TimerDiscard                        | Class-definitions |                    |          |  |
| TimerEPC                        | TimerEPC                            | Class-definitions |                    |          |  |
| TimerMRW                        | TimerMRW                            | Class-definitions |                    |          |  |
| TimerPoll                       | TimerPoll                           | Class-definitions |                    |          |  |
| TimerPollPeriodic               | TimerPollPeriodic                   | Class-definitions |                    |          |  |
| TimerPollProhibit               | TimerPollProhibit                   | Class-definitions |                    |          |  |
| TimerRST                        | TimerRST                            | Class-definitions |                    |          |  |
| TimerStatusPeriodic             | TimerStatusPeriodic                 | Class-definitions |                    |          |  |
| TimerStatusProhibit             | TimerStatusProhibit                 | Class-definitions |                    |          |  |
| TransmissionRLC_Dis card        | TransmissionRLC-Dis card            | Class-definitions |                    |          |  |
| TransmissionWindowSi ze         | TransmissionWindowSi ze             | Class-definitions |                    |          |  |
| UL_AM_RLC_Mode                  | UL-AM-RLC-Mode                      | Class-definitions |                    |          |  |
| UL_CounterSynchroni sationInfo  | UL-CounterSynchron isationInfo      | Class-definitions |                    |          |  |

|  | ASN.1 Type Definitions By Reference        |                   |                    |          |  |
|--|--|-------------------|--------------------|----------|--|
| Type Name                                  | Type Reference                             | Module Identifier | Encoding Variation | Comments |  |
| UL_LogicalChannelMa                        | UL-LogicalChannelMa                        | Class-definitions |                    |          |  |
| pping                                      | pping                                      | Olana dafinikiana |                    |          |  |
| UL_LogicalChannelMa ppingList              | UL-LogicalChannelMa ppingList              | Class-definitions |                    |          |  |
| UL_LogicalChannelMa<br>ppings              | UL-LogicalChannelMa<br>ppings              | Class-definitions |                    |          |  |
| UL_RFC3095_r4                              | UL-RFC3095-r4                              | Class-definitions |                    |          |  |
| UL_RLC_Mode                                | UL-RLC-Mode                                | Class-definitions |                    |          |  |
| UL_TM_RLC_Mode                             | UL-TM-RLC-Mode                             | Class-definitions |                    |          |  |
| UL_UM_RLC_Mode                             | UL-UM-RLC-Mode                             | Class-definitions |                    |          |  |
| UL_TransportChannel<br>Type                | UL-TransportChannel<br>Type                | Class-definitions |                    |          |  |
| AddOrReconfMAC_d<br>Flow                   | AddOrReconfMAC-d<br>Flow                   | Class-definitions |                    |          |  |
| AllowedTFC_List                            | AllowedTFC-List                            | Class-definitions |                    |          |  |
| AllowedTFI_List                            | AllowedTFI-List                            | Class-definitions |                    |          |  |
| BitModeRLC_SizeInfo                        | BitModeRLC-SizeInfo                        | Class-definitions |                    |          |  |
| BLER_QualityValue                          | BLER-QualityValue                          | Class-definitions |                    |          |  |
| ChannelCodingType                          | ChannelCodingType                          | Class-definitions |                    |          |  |
| CodingRate                                 | CodingRate                                 | Class-definitions |                    |          |  |
| CommonDynamicTF_I<br>nfo                   | CommonDynamicTF-I nfo                      | Class-definitions |                    |          |  |
| CommonDynamicTF_I<br>nfo_DynamicTTI        | CommonDynamicTF-I<br>nfo-DynamicTTI        | Class-definitions |                    |          |  |
| CommonDynamicTF_I<br>nfoList               | CommonDynamicTF-I nfoList                  | Class-definitions |                    |          |  |
| CommonDynamicTF_I<br>nfoList_DynamicTTI    | CommonDynamicTF-I<br>nfoList-DynamicTTI    | Class-definitions |                    |          |  |
| CommonTransChTFS                           | CommonTransChTFS                           | Class-definitions |                    |          |  |
| CommonTransChTFS_<br>LCR                   | CommonTransChTFS<br>-LCR                   | Class-definitions |                    |          |  |
| CPCH_SetID                                 | CPCH-SetID                                 | Class-definitions |                    |          |  |
| CRC_Size                                   | CRC-Size                                   | Class-definitions |                    |          |  |
| DedicatedDynamicTF_I nfo                   | DedicatedDynamicTF-<br>Info                | Class-definitions |                    |          |  |
| DedicatedDynamicTF_Info_DynamicTTI         | DedicatedDynamicTF-<br>Info-DynamicTTI     | Class-definitions |                    |          |  |
| DedicatedDynamicTF_I<br>nfoList            | DedicatedDynamicTF-<br>InfoList            | Class-definitions |                    |          |  |
| DedicatedDynamicTF_I<br>nfoList_DynamicTTI | DedicatedDynamicTF-<br>InfoList-DynamicTTI | Class-definitions |                    |          |  |
| DedicatedTransChTFS                        | DedicatedTransChTFS                        | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInfo2List           | DL-AddReconfTrans<br>ChInfo2List           | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInfoList            | DL-AddReconfTrans<br>ChInfoList            | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInfoList_r4         | DL-AddReconfTrans<br>ChInfoList-r4         | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInfoList_r5         | DL-AddReconfTrans<br>ChInfoList-r5         | Class-definitions |                    |          |  |

|                                       | ASN.1 Type Definitions By Reference   |                   |                    |          |  |
|---------------------------------------|---------------------------------------|-------------------|--------------------|----------|--|
| Type Name                             | Type Reference                        | Module Identifier | Encoding Variation | Comments |  |
| DL_AddReconfTransC<br>hInformation    | DL-AddReconfTrans<br>ChInformation    | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInformation_r4 | DL-AddReconfTrans<br>ChInformation-r4 | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInformation_r5 | DL-AddReconfTrans<br>ChInformation-r5 | Class-definitions |                    |          |  |
| DL_AddReconfTransC<br>hInformation2   | DL-AddReconfTrans<br>ChInformation2   | Class-definitions |                    |          |  |
| DL_CommonTransChI<br>nfo              | DL-CommonTransChI nfo                 | Class-definitions |                    |          |  |
| DL_CommonTransChI<br>nfo_r4           | DL-CommonTransChI<br>nfo-r4           | Class-definitions |                    |          |  |
| DL_DeletedTransChIn foList            | DL-DeletedTransChIn foList            | Class-definitions |                    |          |  |
| DL_DeletedTransChIn foList_r5         | DL-DeletedTransChIn foList-r5         | Class-definitions |                    |          |  |
| DL_TransportChannel Identity          | DL-TransportChannel Identity          | Class-definitions |                    |          |  |
| DL_TransportChannel Identity_r5       | DL-TransportChannel Identity-r5       | Class-definitions |                    |          |  |
| DL_TrCH_Type                          | DL-TrCH-Type                          | Class-definitions |                    |          |  |
| DL_TrCH_TypeId1_r5                    | DL-TrCH-Typeld1-r<br>5                | Class-definitions |                    |          |  |
| DL_TrCH_TypeId2_r5                    | DL-TrCH-Typeld2-r<br>5                | Class-definitions |                    |          |  |
| DRAC_ClassIdentity                    | DRAC-ClassIdentity                    | Class-definitions |                    |          |  |
| DRAC_StaticInformati on               | DRAC-StaticInformat ion               | Class-definitions |                    |          |  |
| DRAC_StaticInformati onList           | DRAC-StaticInformat ionList           | Class-definitions |                    |          |  |
| ExplicitTFCS_Configu ration           | ExplicitTFCS–Configu ration           | Class-definitions |                    |          |  |
| GainFactor                            | GainFactor                            | Class-definitions |                    |          |  |
| GainFactorInformation                 | GainFactorInformation                 | Class-definitions |                    |          |  |
| HSDSCH_Info                           | HSDSCH-Info                           | Class-definitions |                    |          |  |
| HARQ_Info                             | HARQ-Info                             | Class-definitions |                    |          |  |
| HARQMemorySize                        | HARQMemorySize                        | Class-definitions |                    |          |  |
| IndividualDL_CCTrCH<br>_Info          | IndividualDL-CCTrCH<br>-Info          | Class-definitions |                    |          |  |
| IndividualDL_CCTrCH<br>_InfoList      | IndividualDL-CCTrCH<br>-InfoList      | Class-definitions |                    |          |  |
| IndividualUL_CCTrCH<br>_Info          | IndividualUL-CCTrCH<br>-Info          | Class-definitions |                    |          |  |
| IndividualUL_CCTrCH<br>_InfoList      | IndividualUL-CCTrCH<br>-InfoList      | Class-definitions |                    |          |  |
| LogicalChannelByRB                    | LogicalChannelByRB                    | Class-definitions |                    |          |  |
| LogicalChannelList                    | LogicalChannelList                    | Class-definitions |                    |          |  |
| MAC_d_FlowIdentity<br>DCHandHSDSCH    | MAC-d-FlowIdentity<br>DCHandHSDSCH    | Class-definitions |                    |          |  |
| MAC_d_FlowIdentity                    | MAC-d-FlowIdentity                    | Class-definitions |                    |          |  |
| MAC_d_PDU_SizeInf<br>o_List           | MAC-d-PDU-SizeIn<br>fo-List           | Class-definitions |                    |          |  |

| Continued from previous pa     | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|--------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                      | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| MAC_d_PDUsizeInfo              | MAC-d-PDUsizeInfo                   | Class-definitions |                    |          |  |
| MAC_hs_AddReconf<br>Queue_List | MAC-hs-AddReconf<br>Queue-List      | Class-definitions |                    |          |  |
| MAC_hs_AddReconf<br>Queue      | MAC-hs-AddReconf<br>Queue           | Class-definitions |                    |          |  |
| MAC_hs_DelQueue_Li<br>st       | MAC-hs-DelQueue-L ist               | Class-definitions |                    |          |  |
| MAC_hs_DelQueue                | MAC-hs-DelQueue                     | Class-definitions |                    |          |  |
| MAC_hs_WindowSize              | MAC-hs-WindowSize                   | Class-definitions |                    |          |  |
| NumberOfTbSizeAndT<br>TIList   | NumberOfTbSizeAndT<br>TIList        | Class-definitions |                    |          |  |
| MessType                       | MessType                            | Class-definitions |                    |          |  |
| Non_allowedTFC_List            | Non-allowedTFC-List                 | Class-definitions |                    |          |  |
| NumberOfTransportBl ocks       | NumberOfTransportBl ocks            | Class-definitions |                    |          |  |
| OctetModeRLC_SizeI nfoType1    | OctetModeRLC-SizeI nfoType1         | Class-definitions |                    |          |  |
| OctetModeRLC_SizeI<br>nfoType2 | OctetModeRLC-SizeI nfoType2         | Class-definitions |                    |          |  |
| PowerOffsetInformati on        | PowerOffsetInformati on             | Class-definitions |                    |          |  |
| PowerOffsetPp_m                | PowerOffsetPp-m                     | Class-definitions |                    |          |  |
| PreDefTransChConfig uration    | PreDefTransChConfig uration         | Class-definitions |                    |          |  |
| QualityTarget                  | QualityTarget                       | Class-definitions |                    |          |  |
| RateMatchingAttribute          | RateMatchingAttribute               | Class-definitions |                    |          |  |
| ReferenceTFC_ID                | ReferenceTFC-ID                     | Class-definitions |                    |          |  |
| RestrictedTrChInfo             | RestrictedTrChInfo                  | Class-definitions |                    |          |  |
| RestrictedTrChInfoLis<br>t     | RestrictedTrChInfoLis<br>t          | Class-definitions |                    |          |  |
| SemistaticTF_Informat ion      | SemistaticTF–Informat ion           | Class-definitions |                    |          |  |
| SignalledGainFactors           | SignalledGainFactors                | Class-definitions |                    |          |  |
| SplitTFCI_Signalling           | SplitTFCI-Signalling                | Class-definitions |                    |          |  |
| SplitType                      | SplitType                           | Class-definitions |                    |          |  |
| T1_ReleaseTimer                | T1-ReleaseTimer                     | Class-definitions |                    |          |  |
| TFC_Subset                     | TFC-Subset                          | Class-definitions |                    |          |  |
| TFC_SubsetList                 | TFC-SubsetList                      | Class-definitions |                    |          |  |
| TFC_Value                      | TFC-Value                           | Class-definitions |                    |          |  |
| TFCI_Field2_Informati on       | TFCI-Field2-Informati<br>on         | Class-definitions |                    |          |  |
| TFCI_Range                     | TFCI-Range                          | Class-definitions |                    |          |  |
| TFCI_RangeList                 | TFCI-RangeList                      | Class-definitions |                    |          |  |
| TFCS                           | TFCS                                | Class-definitions |                    |          |  |
| TFCS_Identity                  | TFCS-Identity                       | Class-definitions |                    |          |  |
| TFCS_IdentityPlain             | TFCS-IdentityPlain                  | Class-definitions |                    |          |  |
| TFCS_InfoForDSCH               | TFCS-InfoForDSCH                    | Class-definitions |                    |          |  |
| TFCS_ReconfAdd                 | TFCS-ReconfAdd                      | Class-definitions |                    |          |  |
| TFCS_Removal                   | TFCS-Removal                        | Class-definitions |                    |          |  |
| TFCS_RemovalList               | TFCS-RemovalList                    | Class-definitions |                    |          |  |

|                                     | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| TimeDurationBeforeRe                | TimeDurationBeforeRe                | Class-definitions |                    |          |  |
| try                                 | try                                 |                   |                    |          |  |
| TM_SignallingInfo                   | TM-SignallingInfo                   | Class-definitions |                    |          |  |
| TransmissionTimeInter val           | TransmissionTimeInter val           | Class-definitions |                    |          |  |
| TransmissionTimeValidi<br>ty        | TransmissionTimeValidi<br>ty        | Class-definitions |                    |          |  |
| TransportChannellden tity           | TransportChannellden tity           | Class-definitions |                    |          |  |
| TransportChannellden tityDCHandDSCH | TransportChannellden tityDCHandDSCH | Class-definitions |                    |          |  |
| TransportFormatSet                  | TransportFormatSet                  | Class-definitions |                    |          |  |
| TransportFormatSet_<br>LCR          | TransportFormatSet-<br>LCR          | Class-definitions |                    |          |  |
| UL_AddReconfTransC<br>hInfoList     | UL-AddReconfTrans<br>ChInfoList     | Class-definitions |                    |          |  |
| UL_AddReconfTransC<br>hInformation  | UL-AddReconfTrans<br>ChInformation  | Class-definitions |                    |          |  |
| UL_CommonTransChI<br>nfo            | UL-CommonTransChI<br>nfo            | Class-definitions |                    |          |  |
| UL_CommonTransChl<br>nfo_r4         | UL-CommonTransChl<br>nfo-r4         | Class-definitions |                    |          |  |
| UL_ControlledTrChLis<br>t           | UL-ControlledTrChLi<br>st           | Class-definitions |                    |          |  |
| UL_DeletedTransChIn foList          | UL-DeletedTransChIn foList          | Class-definitions |                    |          |  |
| UL_TransportChannel Identity        | UL-TransportChannel Identity        | Class-definitions |                    |          |  |
| UL_TrCH_Type                        | UL-TrCH-Type                        | Class-definitions |                    |          |  |
| USCH_TransportCha<br>nnelsInfo      | USCH-TransportCha<br>nnelsInfo      | Class-definitions |                    |          |  |
| ACK_NACK_repetitio nFactor          | ACK-NACK-repetitionFactor           | Class-definitions |                    |          |  |
| AC_To_ASC_Mappin<br>g               | AC-To-ASC-Mappin<br>g               | Class-definitions |                    |          |  |
| AC_To_ASC_Mappin<br>gTable          | AC-To-ASC-Mappin<br>gTable          | Class-definitions |                    |          |  |
| AccessServiceClass_F<br>DD          | AccessServiceClass-F<br>DD          | Class-definitions |                    |          |  |
| AccessServiceClass_T<br>DD          | AccessServiceClass-T<br>DD          | Class-definitions |                    |          |  |
| AccessServiceClass_T<br>DD_LCR_r4   | AccessServiceClass-T<br>DD-LCR-r4   | Class-definitions |                    |          |  |
| AICH_Info                           | AICH-Info                           | Class-definitions |                    |          |  |
| AICH_PowerOffset                    | AICH-PowerOffset                    | Class-definitions |                    |          |  |
| AICH_TransmissionTi ming            | AICH-TransmissionTi<br>ming         | Class-definitions |                    |          |  |
| AllocationPeriodInfo                | AllocationPeriodInfo                | Class-definitions |                    |          |  |
| Alpha                               | Alpha                               | Class-definitions |                    |          |  |
| AP_AICH_Channelisa tionCode         | AP-AICH-Channelisa tionCode         | Class-definitions |                    |          |  |

|                                 | ASN.1 Type Definitions By Reference |                   |                    |          |  |
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| Type Name                       | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| AP_PreambleScrambli             | AP-PreambleScrambli                 | Class-definitions |                    |          |  |
| ngCode                          | ngCode                              | Olassa da Carria  |                    |          |  |
| AP_Signature                    | AP-Signature                        | Class-definitions |                    |          |  |
| AP_Signature_VCAM               | AP-Signature-VCAM                   | Class-definitions |                    |          |  |
| AP_Subchannel                   | AP-Subchannel                       | Class-definitions |                    |          |  |
| ASCSetting_FDD                  | ASCSetting-FDD                      | Class-definitions |                    |          |  |
| ASCSetting_TDD                  | ASCSetting-TDD                      | Class-definitions |                    |          |  |
| ASCSetting_TDD_LC<br>R_r4       | ASCSetting-TDD-LC<br>R-r4           | Class-definitions |                    |          |  |
| AvailableAP_Signature _VCAMList | AvailableAP-Signature –VCAMList     | Class-definitions |                    |          |  |
| AvailableAP_Signature<br>List   | AvailableAP–Signature<br>List       | Class-definitions |                    |          |  |
| AvailableAP_Subchan nelList     | AvailableAP-Subchan nelList         | Class-definitions |                    |          |  |
| AvailableMinimumSF_L istVCAM    | AvailableMinimumSF–<br>ListVCAM     | Class-definitions |                    |          |  |
| AvailableMinimumSF_<br>VCAM     | AvailableMinimumSF-<br>VCAM         | Class-definitions |                    |          |  |
| AvailableSignatures             | AvailableSignatures                 | Class-definitions |                    |          |  |
| AvailableSubChannelN<br>umbers  | AvailableSubChannelN umbers         | Class-definitions |                    |          |  |
| BurstType                       | BurstType                           | Class-definitions |                    |          |  |
| Bler_Target                     | Bler-Target                         | Class-definitions |                    |          |  |
| CCTrCH_PowerContr<br>olInfo     | CCTrCH-PowerCont rollnfo            | Class-definitions |                    |          |  |
| CCTrCH_PowerContr<br>olInfo_r4  | CCTrCH-PowerCont rollnfo-r4         | Class-definitions |                    |          |  |
| CCTrCH_PowerContr<br>olInfo_r5  | CCTrCH-PowerCont rollnfo-r5         | Class-definitions |                    |          |  |
| CD_AccessSlotSubch annel        | CD-AccessSlotSubch annel            | Class-definitions |                    |          |  |
| CD_AccessSlotSubch annelList    | CD-AccessSlotSubch annelList        | Class-definitions |                    |          |  |
| CD_CA_ICH_Channe lisationCode   | CD-CA-ICH-Chann elisationCode       | Class-definitions |                    |          |  |
| CD_PreambleScrambli ngCode      | CD-PreambleScrambli ngCode          | Class-definitions |                    |          |  |
| CD_SignatureCode                | CD-SignatureCode                    | Class-definitions |                    |          |  |
| CD_SignatureCodeLis t           | CD-SignatureCodeLis t               | Class-definitions |                    |          |  |
| CellAndChannelIdentit<br>y      | CellAndChannelldentit<br>y          | Class-definitions |                    |          |  |
| CellParametersID                | CellParametersID                    | Class-definitions |                    |          |  |
| Cfntargetsfnframeoff set        | Cfntargetsfnframeoff set            | Class-definitions |                    |          |  |
| ChannelAssignmentAc tive        | ChannelAssignmentAc tive            | Class-definitions |                    |          |  |
| ChannelisationCode25            | ChannelisationCode25<br>6           | Class-definitions |                    |          |  |
| ChannelReqParamsFo<br>rUCSM     | ChannelReqParamsFo rUCSM            | Class-definitions |                    |          |  |

|                                | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|--------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                      | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| ClosedLoopTimingAdj<br>Mode    | ClosedLoopTimingAdj<br>Mode         | Class-definitions |                    |          |  |
| CodeNumberDSCH                 | CodeNumberDSCH                      | Class-definitions |                    |          |  |
| CodeRange                      | CodeRange                           | Class-definitions |                    |          |  |
| CodeWordSet                    | CodeWordSet                         | Class-definitions |                    |          |  |
| CommonTimeslotInfo             | CommonTimeslotInfo                  | Class-definitions |                    |          |  |
| CommonTimeslotInfoS<br>CCPCH   | CommonTimeslotInfoS<br>CCPCH        | Class-definitions |                    |          |  |
| ConstantValue                  | ConstantValue                       | Class-definitions |                    |          |  |
| ConstantValueTdd               | ConstantValueTdd                    | Class-definitions |                    |          |  |
| CPCH_PersistenceLe vels        | CPCH–PersistenceLe vels             | Class-definitions |                    |          |  |
| CPCH_PersistenceLe velsList    | CPCH-PersistenceLe velsList         | Class-definitions |                    |          |  |
| CPCH_SetInfo                   | CPCH-SetInfo                        | Class-definitions |                    |          |  |
| CPCH_SetInfoList               | CPCH-SetInfoList                    | Class-definitions |                    |          |  |
| CPCH_StatusIndicati onMode     | CPCH-StatusIndicati onMode          | Class-definitions |                    |          |  |
| CQI_RepetitionFactor           | CQI-RepetitionFactor                | Class-definitions |                    |          |  |
| CSICH_PowerOffset              | CSICH-PowerOffset                   | Class-definitions |                    |          |  |
| DefaultDPCH_Offset<br>ValueFDD | DefaultDPCH-Offset<br>ValueFDD      | Class-definitions |                    |          |  |
| DefaultDPCH_Offset<br>ValueTDD | DefaultDPCH-Offset<br>ValueTDD      | Class-definitions |                    |          |  |
| DeltaPp_m                      | DeltaPp-m                           | Class-definitions |                    |          |  |
| DeltaCQI                       | DeltaCQI                            | Class-definitions |                    |          |  |
| DeltaNACK                      | DeltaNACK                           | Class-definitions |                    |          |  |
| DeltaACK                       | DeltaACK                            | Class-definitions |                    |          |  |
| DeltaSIR                       | DeltaSIR                            | Class-definitions |                    |          |  |
| DL_CCTrCh                      | DL-CCTrCh                           | Class-definitions |                    |          |  |
| DL_CCTrCh_r4                   | DL-CCTrCh-r4                        | Class-definitions |                    |          |  |
| DL_CCTrChList                  | DL-CCTrChList                       | Class-definitions |                    |          |  |
| DL_CCTrChList_r4               | DL-CCTrChList-r4                    | Class-definitions |                    |          |  |
| DL_CCTrChListToRe move         | DL-CCTrChListToRe move              | Class-definitions |                    |          |  |
| DL_ChannelisationCo de         | DL-ChannelisationCo de              | Class-definitions |                    |          |  |
| DL_ChannelisationCo deList     | DL-ChannelisationCo deList          | Class-definitions |                    |          |  |
| DL_CommonInformati on          | DL–CommonInformati on               | Class-definitions |                    |          |  |
| DL_CommonInformati<br>on_r4    | DL-CommonInformati<br>on-r4         | Class-definitions |                    |          |  |
| DL_CommonInformati<br>on_r5    | DL-CommonInformati<br>on-r5         | Class-definitions |                    |          |  |
| DL_CommonInformati onPredef    | DL-CommonInformati onPredef         | Class-definitions |                    |          |  |
| DL_CompressedMode<br>Method    | DL-CompressedMode<br>Method         | Class-definitions |                    |          |  |
| DL_DPCH_InfoCom<br>mon         | DL-DPCH-InfoCom<br>mon              | Class-definitions |                    |          |  |

| Continued from previous pa          | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| DL_DPCH_InfoCom<br>mon_r4           | DL-DPCH-InfoCom<br>mon-r4           | Class-definitions |                    |          |  |
| DL_DPCH_InfoCom<br>monPredef        | DL-DPCH-InfoCom<br>monPredef        | Class-definitions |                    |          |  |
| DL_DPCH_InfoPerRL                   | DL-DPCH-InfoPerR<br>L               | Class-definitions |                    |          |  |
| DL_DPCH_InfoPerRL<br>_r4            | DL-DPCH-InfoPerR<br>L-r4            | Class-definitions |                    |          |  |
| DL_DPCH_InfoPerRL<br>_r5            | DL-DPCH-InfoPerR<br>L-r5            | Class-definitions |                    |          |  |
| DL_DPCH_PowerCo<br>ntrolInfo        | DL-DPCH-PowerCo<br>ntrolInfo        | Class-definitions |                    |          |  |
| DL_FrameType                        | DL-FrameType                        | Class-definitions |                    |          |  |
| DL_HSPDSCH_Infor mation             | DL-HSPDSCH-Infor mation             | Class-definitions |                    |          |  |
| DL_HSPDSCH_TS_C onfiguration        | DL-HSPDSCH-TS-<br>Configuration     | Class-definitions |                    |          |  |
| DL_InformationPerRL                 | DL-InformationPerRL                 | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_r4          | DL-InformationPerRL<br>-r4          | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_r5          | DL-InformationPerRL<br>-r5          | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_r5bis       | DL-InformationPerRL<br>-r5bis       | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_List        | DL-InformationPerRL<br>-List        | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_List_r4     | DL-InformationPerRL<br>-List-r4     | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_List_r5     | DL-InformationPerRL<br>-List-r5     | Class-definitions |                    |          |  |
| DL_InformationPerRL<br>_List_r5bis  | DL-InformationPerRL<br>-List-r5bis  | Class-definitions |                    |          |  |
| DL_PDSCH_Informat ion               | DL-PDSCH-Informa tion               | Class-definitions |                    |          |  |
| DI_rate_matching_res triction       | DI-rate-matching-res triction       | Class-definitions |                    |          |  |
| DL_TPC_PowerOffse<br>tPerRL         | DL-TPC-PowerOffse tPerRL            | Class-definitions |                    |          |  |
| DL_TPC_PowerOffse tPerRL_List       | DL-TPC-PowerOffse tPerRL-List       | Class-definitions |                    |          |  |
| DL_TS_Channelisatio nCode           | DL-TS-Channelisatio nCode           | Class-definitions |                    |          |  |
| DL_TS_Channelisatio nCodesShort     | DL-TS-Channelisatio nCodesShort     | Class-definitions |                    |          |  |
| DownlinkAdditionalTim eslots        | DownlinkAdditionalTim eslots        | Class-definitions |                    |          |  |
| DownlinkAdditionalTim eslots_LCR_r4 | DownlinkAdditionalTim eslots–LCR–r4 | Class-definitions |                    |          |  |
| DownlinkTimeslotsCod es             | DownlinkTimeslotsCod es             | Class-definitions |                    |          |  |
| DownlinkTimeslotsCod es_LCR_r4      | DownlinkTimeslotsCod<br>es-LCR-r4   | Class-definitions |                    |          |  |
| DPC_Mode                            | DPC-Mode                            | Class-definitions |                    |          |  |

|  | ASN.1 Type Definitions By Reference            |                   |                    |          |  |
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| Type Name                                      | Type Reference                                 | Module Identifier | Encoding Variation | Comments |  |
| DPCCH_PowerOffset                              | DPCCH-PowerOffse                               | Class-definitions |                    |          |  |
| DPCH_CompressedM odeInfo                       | t DPCH-CompressedM odeInfo                     | Class-definitions |                    |          |  |
| DPCH_CompressedM odeStatusInfo                 | DPCH–CompressedM odeStatusInfo                 | Class-definitions |                    |          |  |
| DPCH_FrameOffset                               | DPCH-FrameOffset                               | Class-definitions |                    |          |  |
| DSCH_Mapping                                   | DSCH-Mapping                                   | Class-definitions |                    |          |  |
| DSCH_MappingList                               | DSCH-MappingList                               | Class-definitions |                    |          |  |
| DSCH_RadioLinkIden tifier                      | DSCH-RadioLinkIden tifier                      | Class-definitions |                    |          |  |
| DSCH_TransportCha<br>nnelsInfo                 | DSCH-TransportCha nnelsInfo                    | Class-definitions |                    |          |  |
| DurationTimeInfo                               | DurationTimeInfo                               | Class-definitions |                    |          |  |
| DynamicPersistenceLe vel                       | DynamicPersistenceLe vel                       | Class-definitions |                    |          |  |
| DynamicPersistenceLe velList                   | DynamicPersistenceLe velList                   | Class-definitions |                    |          |  |
| DynamicPersistenceLe velTF_List                | DynamicPersistenceLe velTF-List                | Class-definitions |                    |          |  |
| FACH_PCH_Informat ion                          | FACH-PCH-Informa tion                          | Class-definitions |                    |          |  |
| FACH_PCH_Informat ionList                      | FACH-PCH-Informa tionList                      | Class-definitions |                    |          |  |
| Feedback_cycle                                 | Feedback-cycle                                 | Class-definitions |                    |          |  |
| FPACH_Info_r4                                  | FPACH-Info-r4                                  | Class-definitions |                    |          |  |
| FrequencyInfo                                  | FrequencyInfo                                  | Class-definitions |                    |          |  |
| FrequencyInfoFDD                               | FrequencyInfoFDD                               | Class-definitions |                    |          |  |
| FrequencyInfoTDD                               | FrequencyInfoTDD                               | Class-definitions |                    |          |  |
| HS_ChannelisationCo<br>de_LCR                  | HS-ChannelisationCo<br>de-LCR                  | Class-definitions |                    |          |  |
| HS_PDSCH_Midambl<br>e_Configuration_TDD<br>128 | HS-PDSCH-Midambl<br>e-Configuration-TDD<br>128 | Class-definitions |                    |          |  |
| HS_SCCH_Info                                   | HS-SCCH-Info                                   | Class-definitions |                    |          |  |
| HS_SCCH_Codes                                  | HS-SCCH-Codes                                  | Class-definitions |                    |          |  |
| HS_SCCH_TDD128                                 | HS-SCCH-TDD128                                 | Class-definitions |                    |          |  |
| HS_SICH_Configurati on_TDD128                  | HS-SICH-Configurat ion-TDD128                  | Class-definitions |                    |          |  |
| HS_SCCH_TDD384                                 | HS-SCCH-TDD384                                 | Class-definitions |                    |          |  |
| HS_SICH_Configurati on_TDD384                  | HS-SICH-Configurat ion-TDD384                  | Class-definitions |                    |          |  |
| HS_SICH_Power_Co<br>ntrol_Info_TDD384          | HS-SICH-Power-C ontrol-Info-TDD384             | Class-definitions |                    |          |  |
| IndividualTimeslotInfo                         | IndividualTimeslotInfo                         | Class-definitions |                    |          |  |
| IndividualTimeslotInfo_<br>LCR_r4              | IndividualTimeslotInfo<br>–LCR–r4              | Class-definitions |                    |          |  |
| IndividualTimeslotInfo_<br>LCR_r4_ext          | IndividualTimeslotInfo<br>-LCR-r4-ext          | Class-definitions |                    |          |  |
| IndividualTS_Interfere nce                     | IndividualTS-Interfere nce                     | Class-definitions |                    |          |  |

|                                      | ASN.1 Type Definitions By Reference  |                   |                    |          |
|--------------------------------------|--------------------------------------|-------------------|--------------------|----------|
| Type Name                            | Type Reference                       | Module Identifier | Encoding Variation | Comments |
| IndividualTS_Interfere               | IndividualTS-Interfere               | Class-definitions |                    |          |
| nceList                              | nceList                              | Class definitions |                    |          |
| ITP                                  | ITP                                  | Class-definitions |                    |          |
| NidentifyAbort                       | NidentifyAbort                       | Class-definitions |                    |          |
| MaxAllowedUL_TX_P ower               | MaxAllowedUL-TX-P ower               | Class-definitions |                    |          |
| MaxAvailablePCPCH_<br>Number         | MaxAvailablePCPCH-<br>Number         | Class-definitions |                    |          |
| MaxPowerIncrease_r4                  | MaxPowerIncrease-r4                  | Class-definitions |                    |          |
| MaxTFCI_Field2Value                  | MaxTFCI-Field2Value                  | Class-definitions |                    |          |
| Measurement_Feedback_Info            | Measurement–Feedba<br>ck–Info        | Class-definitions |                    |          |
| MidambleConfiguratio nBurstType1and3 | MidambleConfiguratio nBurstType1and3 | Class-definitions |                    |          |
| MidambleConfiguratio<br>nBurstType2  | MidambleConfiguratio nBurstType2     | Class-definitions |                    |          |
| MidambleShiftAndBur<br>stType        | MidambleShiftAndBur<br>stType        | Class-definitions |                    |          |
| MidambleShiftAndBur<br>stType_LCR_r4 | MidambleShiftAndBur<br>stType–LCR–r4 | Class-definitions |                    |          |
| MidambleShiftAndBur<br>stType_DL     | MidambleShiftAndBur<br>stType-DL     | Class-definitions |                    |          |
| MidambleShiftLong                    | MidambleShiftLong                    | Class-definitions |                    |          |
| MidambleShiftShort                   | MidambleShiftShort                   | Class-definitions |                    |          |
| MinimumSpreadingFac tor              | MinimumSpreadingFac tor              | Class-definitions |                    |          |
| MultiCodeInfo                        | MultiCodeInfo                        | Class-definitions |                    |          |
| N_EOT                                | N-EOT                                | Class-definitions |                    |          |
| N_GAP                                | N-GAP                                | Class-definitions |                    |          |
| N_PCH                                | N-PCH                                | Class-definitions |                    |          |
| N_StartMessage                       | N-StartMessage                       | Class-definitions |                    |          |
| NB01                                 | NB01                                 | Class-definitions |                    |          |
| NF_Max                               | NF-Max                               | Class-definitions |                    |          |
| NumberOfDPDCH                        | NumberOfDPDCH                        | Class-definitions |                    |          |
| NumberOfFBI_Bits                     | NumberOfFBI-Bits                     | Class-definitions |                    |          |
| OpenLoopPowerCont rol_TDD            | OpenLoopPowerCont rol-TDD            | Class-definitions |                    |          |
| OpenLoopPowerCont rol_IPDL_TDD_r4    | OpenLoopPowerCont<br>rol-IPDL-TDD-r4 | Class-definitions |                    |          |
| PagingIndicatorLengt<br>h            | PagingIndicatorLengt h               | Class-definitions |                    |          |
| PC_Preamble                          | PC-Preamble                          | Class-definitions |                    |          |
| PCP_Length                           | PCP-Length                           | Class-definitions |                    |          |
| PCPCH_ChannelInfo                    | PCPCH-ChannelInfo                    | Class-definitions |                    |          |
| PCPCH_ChannelInfo List               | PCPCH-ChannelInfo List               | Class-definitions |                    |          |
| PCPICH_UsageForC hannelEst           | PCPICH-UsageForC hannelEst           | Class-definitions |                    |          |
| PDSCH_CapacityAllo cationInfo        | PDSCH-CapacityAllo cationInfo        | Class-definitions |                    |          |

| Type Name  |                        | ASN.1 T                               | ype Definitions By R | Reference          |          |
|--|------------------------|---------------------------------------|----------------------|--------------------|----------|
| cationInfo_r4         cationInfo_r4         PDSCH_CodeInfo           PDSCH_CodeInfoList PDSCH_CodeInfoList TSCH_CodeInfoList TSCH_CodeInfo_Info_Info_Info_Info_Info_Info_Info_   | Type Name              | Type Reference                        | Module Identifier    | Encoding Variation | Comments |
| PDSCH_CodeInfo   PDSCH-CodeInfo   PDSCH-CodeInfo   PDSCH-CodeInfo   PDSCH-CodeInfo   PDSCH-CodeMap   PDSCH-Info   PDSCH-CodeMap   PDSCH-Info   PD   |                        |                                       | Class-definitions    |                    |          |
| PDSCH_CodeInfoList   PDSCH-CodeInfoList   Class-definitions   PDSCH_Info_LCR_r   PDSCH_Info_LCR_r   A  | _                      |                                       | Class definitions    |                    |          |
| DPSCH_CodeMapLis   |                        |                                       |                      |                    |          |
| PDSCH_CodeMappin g PDSCH_CodeMappin g PDSCH_CodeMappin g PDSCH_Info PDSCH_Inf | PDSCH_CodeInfoList     |                                       | Class-definitions    |                    |          |
| PDSCH_CodeMappin   | PDSCH_CodeMap          | PDSCH-CodeMap                         | Class-definitions    |                    |          |
| PDSCH_Info   | · ·                    | · '                                   | Class-definitions    |                    |          |
| PDSCH_Info   |                        |                                       | Class-definitions    |                    |          |
| PDSCH_Info_t4 PDSCH_Info_LCR_r 4 PDSCH_PowerContr ollnfo PDSCH_PowerContr ollnfo PDSCH_SHO_DCH_ Info PDSCH_SysInfo R-r6 PDSCH_SysInfo PDSCH_SysInfo PDSCH_SysInfo PDSCH_SysInfo PDSCH_SysInfo PDSCH_SysInfo PDSCH_SysInfo R-r6 PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList LCR_r4 PDSCH_SysInfoList PDSCH_ | PDSCH_Identity         | PDSCH-Identity                        | Class-definitions    |                    |          |
| PDSCH_Info_LCR_r 4 PDSCH_PowerContr ollnfo PDSCH_Syplanfo PDSCH_SysInfo R_r5 PDSCH_SysInfo PDSCH_SysInfo Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions PDSCH_SysInfo R_r4 PDSCH_SysInfoList PDSCH_SysInf | PDSCH_Info             | PDSCH-Info                            | Class-definitions    |                    |          |
| 4 PDSCH_PowerControllrollrollrollrollrollrollrollrollrol   | PDSCH_Info_r4          | PDSCH-Info-r4                         | Class-definitions    |                    |          |
| PDSCH_PowerControllnfo ollnfo PDSCH_SYSInfo  | PDSCH_Info_LCR_r       | PDSCH-Info-LCR-r                      | Class-definitions    |                    |          |
| ollinfo DDSCH_SHO_DCH_ Info DDSCH_SysInfo DDSCH_SysInfo DDSCH_SysInfo_HC R_r5 PDSCH_SysInfo_LC R_r4 PDSCH_SysInfoList DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DDSCH_SysInfoList DDSCH_SysInfoList DDSCH_SysInfoList DDSCH_SysInfoList DDSCH_SysInfoList DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DCIass_definitions DDSCH_SysInfoList DDSCH_SysInfoL | 4                      |                                       |                      |                    |          |
| Info PDSCH_SysInfo PDSCH_SysInfo_HC R_f5 PDSCH_SysInfo_HC R_r4 PDSCH_SysInfo_LC R_r4 PDSCH_SysInfoList |                        |                                       | Class-definitions    |                    |          |
| PDSCH_SysInfo_HC R_rf6 PDSCH_SysInfo_LC R_rf4 PDSCH_SysInfoList LCR_rf4 PDSCH_SysInfoList PDSCH_SysInfoList LCR_rf4 PDSCH_SysInfoList PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN_HCR_rf5 PDSCH_SysInfoList SFN_HCR_rf5 PDSCH_SysInfoList SFN_HCR_rf5 PDSCH_SysInfoList SFN_HCR_rf5 PDSCH_SysInfoList SFN_HCR_rf6 PDSCH_SysInfoList SFN_HCR_rf6 PDSCH_SysInfoList SFN_HCR_rf6 PDSCH_SysInfoList SFN_HCR_rf6 PDSCH_SysInfoList SFN_HCR_rf7 PDSCH_SysInfoList SFN_HCR_rf8 PDSCH_SysInfoList SFN_HCR_rf9 PDSCH_SysInfoList Class_definitions Class_definitions PCIAss_definitions PICH_Info_LCR_rf4 PICH_Info_LCR_rf4 PICH_Info_LCR_rf4 PICH_PowerOffset PICH_PowerOffset PICH_PowerOffset PICH_PowerOffset PICH_Info_LCR_rf4 PICH_PowerOffset PICH_Info_LCR_rf4 PICH_Info_ |                        |                                       | Class-definitions    |                    |          |
| R_r5 PDSCH_SysInfo_LC R_r4 PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN_HCR_r5 PDSCH_SysInfoList SFN_HCR_r5 PDSCH_SysInfoList SFN_LCR_r4 PersistenceScalingFac tor tor PersistenceScalingFac tor United Pich CountPerFrame PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info PICH_Info PICH_Info PICH_Info PICH_Info PICH_Info PICH_PowerOffset PICH_PowerOffset PilotBits128 PilotBits128 PilotBits256 MeasurementPowerOf fiset PositionFixedOrFlexibl PositionFixedOrFlexibl PositionFixedOrFlexibl PositionFixedOrFlexibl POSCH_SysInfoList Class_definitions Class | PDSCH_SysInfo          | PDSCH-SysInfo                         | Class-definitions    |                    |          |
| R_r4 PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList PDSCH_SysInfoList LCR_r4 PDSCH_SysInfoList PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN PDSCH_SysInfoList SFN_HCR_r5 PDSCH_SysInfoList SFN_HCR_r5 PDSCH_SysInfoList SFN_HCR_r5 PDSCH_SysInfoList SFN_HCR_r4 PersistenceScalingFac tor PersistenceScalingFac tor PI_CountPerFrame PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info PICH_Info PICH_Info PICH_Info PICH_PowerOffset PICH_PowerOffset PilotBits128 PilotBits256 MeasurementPowerOffset PositionFixedOrFlexibl PositionFixedOrFlexibl PDSCH—SysInfoList Class—definitions Class—d | -                      | · · · · · · · · · · · · · · · · · · · | Class-definitions    |                    |          |
| PDSCH_SysInfoList_HCR_r5 PDSCH_SysInfoList_LCR_r4 PDSCH_SysInfoList_LCR_r4 PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_LCR_r4 PersistenceScalingFac tor PersistenceScalingFac tor/List PI_CountPerFrame PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info PICH_Info PICH_Info PICH_Info PICH_PowerOffset PiotBits128 PilotBits256 MeasurementPowerOf fset PDSCH—SysInfoList_SFN_HCR_r5 PDSCH—SysInfoList_SFN_HCR_r5 PDSCH—SysInfoList_SFN_HCR_r5 Class—definitions   | -                      | _                                     | Class-definitions    |                    |          |
| HCR_r5 PDSCH_SysInfoList_LCR_r4 PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r5 PDSCH_SysInfoList_SFN_HCR_r6 PDSCH_SysInfoList_SFN_HCR_r7 PDSCH_SysInfoList_SFN_HCR_r9 PDSCH | PDSCH_SysInfoList      | PDSCH-SysInfoList                     | Class-definitions    |                    |          |
| LCR_r4  PDSCH_SysInfoList_SFN  PDSCH_SysInfoList_SFN_HCR_r5  POSCH_SysInfoList_SFN_HCR_r5  PDSCH_SysInfoList_SFN_HCR_r5  POSCH_SysInfoList_SFN_HCR_r5  PDSCH_SysInfoList_SFN_HCR_r5  POSCH_SysInfoList_SFN_HCR_r5  PDSCH_SysInfoList_SFN_HCR_r5  POSCH_SysInfoList_SFN_HCR_r5  PDSCH_SysInfoList_SFN_HCR_r5  POSCH_SysInfoList_SFN_HCR_r5  Class_definitions  Class_definitions  Class_definitions  PICH_Info_LCR_r4  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  PICH_PowerOffset  Class_definitions  PIOTELITED TO CLASS_DEFINITIONS  Class_definitions  Class_definitions  Class_definitions  Class_definitions  Class_definitions  POSCH_SysInfoList_SFN_HCR_r5  Class_definitions   |                        |                                       | Class-definitions    |                    |          |
| SFN  |                        |                                       | Class-definitions    |                    |          |
| SFN_HCR_r5  PDSCH_SysInfoList_SFN_LCR_r4  PersistenceScalingFac tor  PersistenceScalingFac torList  PI_CountPerFrame  PichChannelisationCo deList_LCR_r4  PICH_Info  PICH_Info  PICH_Info_LCR_r4  PICH_PowerOffset  PIOtB its 128  PilotBits 128  PilotBits 256  MeasurementPowerOf fset  PDSCH—SysInfoList—SFN_LCR_r5  PDSCH—SysInfoList—SFN_LCR_r6  PDSCH—SysInfoList—Class—definitions  Class—definitions  |                        |                                       | Class-definitions    |                    |          |
| SFN_LCR_r4 PersistenceScalingFac tor PersistenceScalingFac torList Pl_CountPerFrame PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info PICH_Info PICH_PowerOffset PilotBits128 PilotBits256 MeasurementPowerOf fset PersistenceScalingFac torList Class-definitions  | -                      |                                       | Class-definitions    |                    |          |
| tor tor  PersistenceScalingFac torList PI_CountPerFrame PI_CountPerFrame PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info Class_definitions  PICH_Info_LCR_r4 PICH_PowerOffset PICH_PowerOffset PilotBits128 PilotBits256 PilotBits256 PilotBits256 PositionFixedOrFlexibl PositionFixedOrFlexibl PositionFixedOrFlexibl PositionFixedOrFlexibl Pich_Info Class_definitions Plass_definitions PlotAllist PositionFixedOrFlexibl PositionFixedOrFlexibl Class_definitions PlotAllist |                        |                                       | Class-definitions    |                    |          |
| torList torList   PI_CountPerFrame   PI_CountPerFrame   PichChannelisationCo deList_LCR_r4   PICH_Info   PICH_Info   PICH_Info_LCR_r4   PICH_PowerOffset   PICH_PowerOffset   PilotBits128   PilotBits256   PilotBits256   PilotBits256   MeasurementPowerOf fset   PositionFixedOrFlexibl   PositionFixedOrFlexibl   PositionFixedOrFlexibl   PICH_Info   PICH_Info   Class_definitions   Class_d | _                      |                                       | Class-definitions    |                    |          |
| PichChannelisationCo deList_LCR_r4 PICH_Info PICH_Info PICH_Info PICH_Info_LCR_r4 PICH_PowerOffset PICH_PowerOffset PilotBits128 PilotBits256 PilotBits256 MeasurementPowerOffset PositionFixedOrFlexibl PositionFixedOrFlexibl PichChannelisationCo deList_LCR_r4 PICH_Info_LCR_r4 PICH_Info Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions  |                        |                                       | Class-definitions    |                    |          |
| deList_LCR_r4       deList_LCR_r4       Class-definitions         PICH_Info       PICH-Info       Class-definitions         PICH_Info_LCR_r4       PICH-Info-LCR-r4       Class-definitions         PICH_PowerOffset       PICH-PowerOffset       Class-definitions         PilotBits128       PilotBits28       Class-definitions         PilotBits256       PilotBits256       Class-definitions         MeasurementPowerOffset       MeasurementPowerOffset       Class-definitions         PositionFixedOrFlexibl       PositionFixedOrFlexibl       Class-definitions   | PI_CountPerFrame       | PI-CountPerFrame                      | Class-definitions    |                    |          |
| PICH_Info PICH_Info PICH_Info_LCR_r4 PICH_Info_LCR_r4 PICH_PowerOffset PICH_PowerOffset PilotBits128 PilotBits256 PilotBits256 MeasurementPowerOffset PositionFixedOrFlexibl PositionFixedOrFlexibl PICH_PowerOffset Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions Class_definitions   |                        |                                       | Class-definitions    |                    |          |
| PICH_PowerOffset PICH-PowerOffset Class-definitions PilotBits128 PilotBits256 PilotBits256 Class-definitions MeasurementPowerOf fset PositionFixedOrFlexibl PositionFixedOrFlexibl Class-definitions   | PICH_Info              | PICH-Info                             | Class-definitions    |                    |          |
| PICH_PowerOffset PICH-PowerOffset Class-definitions PilotBits128 PilotBits256 PilotBits256 Class-definitions MeasurementPowerOf fset PositionFixedOrFlexibl PositionFixedOrFlexibl Class-definitions   | PICH_Info_LCR_r4       | PICH-Info-LCR-r4                      | Class-definitions    |                    |          |
| PilotBits128 PilotBits128 Class-definitions PilotBits256 PilotBits256 Class-definitions MeasurementPowerOf fset PositionFixedOrFlexibl PositionFixedOrFlexibl Class-definitions  |                        | PICH-PowerOffset                      | Class-definitions    |                    |          |
| PilotBits256       PilotBits256       Class-definitions         MeasurementPowerOf fset       MeasurementPowerOf fset       Class-definitions         PositionFixedOrFlexibl       PositionFixedOrFlexibl       Class-definitions  |                        | PilotBits128                          | Class-definitions    |                    |          |
| MeasurementPowerOf fset       MeasurementPowerOf fset       Class-definitions         PositionFixedOrFlexibl       PositionFixedOrFlexibl       Class-definitions  |                        |                                       |                      |                    |          |
| PositionFixedOrFlexibl PositionFixedOrFlexibl Class-definitions  |                        |                                       | Class-definitions    |                    |          |
|  | PositionFixedOrFlexibl | PositionFixedOrFlexibl                | Class-definitions    |                    |          |

| ASN.1 Type Definitions By Reference |                                     |  |                    |          |
|-------------------------------------|-------------------------------------|--|--------------------|----------|
| Type Name                           | Type Reference                      | Module Identifier  | Encoding Variation | Comments |
| PowerControlAlgorith                | PowerControlAlgorith                | Class-definitions  |                    |          |
| m                                   | m<br>D O'' (D'I                     | Observation of the control of the co |                    |          |
| PowerOffsetPilot_pdp<br>dch         | PowerOffsetPilot-pd<br>pdch         | Class-definitions  |                    |          |
| PowerOffsetTPC_pdp dch              | PowerOffsetTPC-pdp dch              | Class-definitions  |                    |          |
| PowerRampStep                       | PowerRampStep                       | Class-definitions  |                    |          |
| PRACH_ChanCodes_<br>LCR_r4          | PRACH-ChanCodes<br>-LCR-r4          | Class-definitions  |                    |          |
| PRACH_Definition_L<br>CR_r4         | PRACH-Definition-L<br>CR-r4         | Class-definitions  |                    |          |
| PRACH_Midamble                      | PRACH-Midamble                      | Class-definitions  |                    |          |
| PRACH_Partitioning                  | PRACH-Partitioning                  | Class-definitions  |                    |          |
| PRACH_Partitioning_<br>LCR_r4       | PRACH-Partitioning-<br>LCR-r4       | Class-definitions  |                    |          |
| PRACH_PowerOffset                   | PRACH-PowerOffset                   | Class-definitions  |                    |          |
| PRACH_RACH_Info                     | PRACH-RACH-Info                     | Class-definitions  |                    |          |
| PRACH_RACH_Info_<br>LCR_r4          | PRACH-RACH-Info<br>-LCR-r4          | Class-definitions  |                    |          |
| PRACH_SystemInfor mation            | PRACH–SystemInfor mation            | Class-definitions  |                    |          |
| PRACH_SystemInfor mation_LCR_r4     | PRACH–SystemInfor mation–LCR–r4     | Class-definitions  |                    |          |
| PRACH_SystemInfor mationList        | PRACH–SystemInfor mationList        | Class-definitions  |                    |          |
| PRACH_SystemInfor mationList_LCR_r4 | PRACH-SystemInfor mationList-LCR-r4 | Class-definitions  |                    |          |
| PreambleRetransMax                  | PreambleRetransMax                  | Class-definitions  |                    |          |
| PreambleScramblingC odeWordNumber   | PreambleScramblingC odeWordNumber   | Class-definitions  |                    |          |
| PreDefPhyChConfigu ration           | PreDefPhyChConfigu ration           | Class-definitions  |                    |          |
| PrimaryCCPCH_Info                   | PrimaryCCPCH-Info                   | Class-definitions  |                    |          |
| PrimaryCCPCH_Info_<br>r4            | PrimaryCCPCH-Info<br>-r4            | Class-definitions  |                    |          |
| PrimaryCCPCH_Info_<br>LCR_r4        | PrimaryCCPCH-Info<br>-LCR-r4        | Class-definitions  |                    |          |
| PrimaryCCPCH_Info_<br>LCR_r4_ext    | PrimaryCCPCH-Info<br>-LCR-r4-ext    | Class-definitions  |                    |          |
| PrimaryCCPCH_TX_P ower              | PrimaryCCPCH-TX-<br>Power           | Class-definitions  |                    |          |
| PrimaryCPICH_Info                   | PrimaryCPICH-Info                   | Class-definitions  |                    |          |
| PrimaryCPICH_TX_P ower              | PrimaryCPICH-TX-P ower              | Class-definitions  |                    |          |
| PrimaryScramblingCo<br>de           | PrimaryScramblingCo<br>de           | Class-definitions  |                    |          |
| PuncturingLimit                     | PuncturingLimit                     | Class-definitions  |                    |          |
| PUSCH_CapacityAllo cationInfo       | PUSCH-CapacityAllo cationInfo       | Class-definitions  |                    |          |
| PUSCH_CapacityAllo cationInfo_r4    | PUSCH-CapacityAllo cationInfo-r4    | Class-definitions  |                    |          |
| PUSCH_Identity                      | PUSCH-Identity                      | Class-definitions  |                    |          |

|                                  | ASN.1 Type Definitions By Reference |                   |                    |          |
|----------------------------------|-------------------------------------|-------------------|--------------------|----------|
| Type Name                        | Type Reference                      | Module Identifier | Encoding Variation | Comments |
| PUSCH_Info                       | PUSCH-Info                          | Class-definitions |                    |          |
| PUSCH_Info_r4                    | PUSCH-Info-r4                       | Class-definitions |                    |          |
| PUSCH_Info_LCR_r                 | PUSCH-Info-LCR-r                    | Class-definitions |                    |          |
| 4 PUSCH_PowerContr ollnfo_r4     | PUSCH-PowerControllnfo-r4           | Class-definitions |                    |          |
| PUSCH_SysInfo                    | PUSCH-SysInfo                       | Class-definitions |                    |          |
| PUSCH_SysInfo_HC<br>R_r5         | PUSCH-SysInfo-HC<br>R-r5            | Class-definitions |                    |          |
| PUSCH_SysInfo_LC<br>R_r4         | PUSCH-SysInfo-LC<br>R-r4            | Class-definitions |                    |          |
| PUSCH_SysInfoList                | PUSCH-SysInfoList                   | Class-definitions |                    |          |
| PUSCH_SysInfoList_<br>HCR_r5     | PUSCH-SysInfoList-<br>HCR-r5        | Class-definitions |                    |          |
| PUSCH_SysInfoList_<br>LCR_r4     | PUSCH-SysInfoList-<br>LCR-r4        | Class-definitions |                    |          |
| PUSCH_SysInfoList_<br>SFN        | PUSCH-SysInfoList-<br>SFN           | Class-definitions |                    |          |
| PUSCH_SysInfoList_<br>SFN_HCR_r5 | PUSCH-SysInfoList-<br>SFN-HCR-r5    | Class-definitions |                    |          |
| PUSCH_SysInfoList_<br>SFN_LCR_r4 | PUSCH-SysInfoList-<br>SFN-LCR-r4    | Class-definitions |                    |          |
| RACH_TransmissionP arameters     | RACH-TransmissionP arameters        | Class-definitions |                    |          |
| RepetitionPeriodAndL<br>ength    | RepetitionPeriodAndL ength          | Class-definitions |                    |          |
| RepetitionPeriodLengt hAndOffset | RepetitionPeriodLengt hAndOffset    | Class-definitions |                    |          |
| ReplacedPDSCH_Cod eInfo          | ReplacedPDSCH-Co deInfo             | Class-definitions |                    |          |
| ReplacedPDSCH_Cod eInfoList      | ReplacedPDSCH–Co deInfoList         | Class-definitions |                    |          |
| RepPerLengthOffset_<br>PICH      | RepPerLengthOffset-<br>PICH         | Class-definitions |                    |          |
| RestrictedTrCH                   | RestrictedTrCH                      | Class-definitions |                    |          |
| RestrictedTrCH_InfoLi st         | RestrictedTrCH-InfoL ist            | Class-definitions |                    |          |
| RL_AdditionInformati on          | RL-AdditionInformati on             | Class-definitions |                    |          |
| RL_AdditionInformati onList      | RL-AdditionInformati onList         | Class-definitions |                    |          |
| RL_IdentifierList                | RL-IdentifierList                   | Class-definitions |                    |          |
| RL_RemovalInformati onList       | RL-RemovalInformati onList          | Class-definitions |                    |          |
| RPP                              | RPP                                 | Class-definitions |                    |          |
| S_Field                          | S-Field                             | Class-definitions |                    |          |
| SCCPCH_Channelisa tionCode       | SCCPCH-Channelisa tionCode          | Class-definitions |                    |          |
| SCCPCH_Channelisa tionCodeList   | SCCPCH-Channelisa tionCodeList      | Class-definitions |                    |          |
| SCCPCH_InfoForFA<br>CH           | SCCPCH-InfoForFA<br>CH              | Class-definitions |                    |          |

|   | ASN.1 Type Definitions By Reference             |                   |                    |          |
|---|---|-------------------|--------------------|----------|
| Type Name                                       | Type Reference                                  | Module Identifier | Encoding Variation | Comments |
| SCCPCH_InfoForFA                                | SCCPCH-InfoForFA                                | Class-definitions |                    |          |
| CH_r4   | CH-r4   |                   |                    |          |
| SCCPCH_SystemInfo rmation                       | SCCPCH-SystemInf ormation                       | Class-definitions |                    |          |
| SCCPCH_SystemInfo rmation_LCR_r4_ext            | SCCPCH-SystemInf<br>ormation-LCR-r4-ex<br>t     | Class-definitions |                    |          |
| SCCPCH_SystemInfo<br>rmationList                | SCCPCH–SystemInf ormationList                   | Class-definitions |                    |          |
| SCCPCH_SystemInfo<br>rmationList_LCR_r4_<br>ext | SCCPCH-SystemInf<br>ormationList-LCR-r4<br>-ext | Class-definitions |                    |          |
| ScramblingCodeChan<br>ge                        | ScramblingCodeChan ge                           | Class-definitions |                    |          |
| ScramblingCodeType                              | ScramblingCodeType                              | Class-definitions |                    |          |
| SecondaryCCPCH_In fo                            | SecondaryCCPCH-In fo                            | Class-definitions |                    |          |
| SecondaryCCPCH_In fo_r4                         | SecondaryCCPCH-In fo-r4                         | Class-definitions |                    |          |
| SecondaryCCPCH_In fo_LCR_r4_ext                 | SecondaryCCPCH-In fo-LCR-r4-ext                 | Class-definitions |                    |          |
| SecondaryCPICH_Inf<br>o                         | SecondaryCPICH-Inf<br>o                         | Class-definitions |                    |          |
| SecondaryScrambling Code                        | SecondaryScrambling Code                        | Class-definitions |                    |          |
| SecondInterleavingMo<br>de                      | SecondInterleavingMo de                         | Class-definitions |                    |          |
| SF256_AndCodeNum<br>ber                         | SF256-AndCodeNum<br>ber                         | Class-definitions |                    |          |
| SF512_AndCodeNum<br>ber                         | SF512-AndCodeNum<br>ber                         | Class-definitions |                    |          |
| SF512_AndPilot                                  | SF512-AndPilot                                  | Class-definitions |                    |          |
| SF_PDSCH  | SF-PDSCH  | Class-definitions |                    |          |
| SF_PRACH  | SF-PRACH  | Class-definitions |                    |          |
| SFN_TimeInfo                                    | SFN-TimeInfo                                    | Class-definitions |                    |          |
| SpecialBurstSchedulin<br>g                      | SpecialBurstSchedulin g                         | Class-definitions |                    |          |
| SpreadingFactor                                 | SpreadingFactor                                 | Class-definitions |                    |          |
| SRB_delay                                       | SRB-delay                                       | Class-definitions |                    |          |
| SSDT_CellIdentity                               | SSDT-CellIdentity                               | Class-definitions |                    |          |
| SSDT_Information                                | SSDT-Information                                | Class-definitions |                    |          |
| SSDT_Information_r4                             | SSDT-Information-r4                             | Class-definitions |                    |          |
| SSDT_UL   | SSDT-UL   | Class-definitions |                    |          |
| SynchronisationParam eters_r4                   | SynchronisationParam eters-r4                   | Class-definitions |                    |          |
| SYNC_UL_Procedure<br>_r4                        | SYNC-UL-Procedure<br>-r4                        | Class-definitions |                    |          |
| SYNC_UL_Info_r4                                 | SYNC-UL-Info-r4                                 | Class-definitions |                    |          |
| TDD_FPACH_CCode<br>16_r4                        | TDD-FPACH-CCode<br>16-r4                        | Class-definitions |                    |          |
| TDD_UL_Interference                             | TDD-UL-Interference                             | Class-definitions |                    |          |
| TDD_PICH_CCode                                  | TDD-PICH-CCode                                  | Class-definitions |                    |          |

|                              | ASN.1 Type Definitions By Reference |                   |                    |          |  |
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| Type Name                    | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| TDD_PRACH_CCode              | TDD-PRACH-CCode                     | Class-definitions |                    |          |  |
| 8                            | 8                                   |                   |                    |          |  |
| TDD_PRACH_CCode<br>16        | TDD-PRACH-CCode<br>16               | Class-definitions |                    |          |  |
| TDD_PRACH_CCode<br>_LCR_r4   | TDD-PRACH-CCode<br>-LCR-r4          | Class-definitions |                    |          |  |
| TDD_PRACH_CCode<br>List      | TDD-PRACH-CCode<br>List             | Class-definitions |                    |          |  |
| TFC_ControlDuration          | TFC-ControlDuration                 | Class-definitions |                    |          |  |
| TFCI_Coding                  | TFCI-Coding                         | Class-definitions |                    |          |  |
| TGCFN                        | TGCFN                               | Class-definitions |                    |          |  |
| TGD                          | TGD                                 | Class-definitions |                    |          |  |
| TGL                          | TGL                                 | Class-definitions |                    |          |  |
| TGMP                         | TGMP                                | Class-definitions |                    |          |  |
| TGP_Sequence                 | TGP-Sequence                        | Class-definitions |                    |          |  |
| TGPS_Reconfiguration_CFN     | TGPS-Reconfiguratio                 | Class-definitions |                    |          |  |
| TGP_SequenceList             | TGP-SequenceList                    | Class-definitions |                    |          |  |
| TGP_SequenceShort            | TGP-SequenceShort                   | Class-definitions |                    |          |  |
| TGPL                         | TGPL                                | Class-definitions |                    |          |  |
| TGPRC                        | TGPRC                               | Class-definitions |                    |          |  |
| TGPS_ConfigurationP arams    | TGPS–ConfigurationP arams           | Class-definitions |                    |          |  |
| TGPSI                        | TGPSI                               | Class-definitions |                    |          |  |
| TGSN                         | TGSN                                | Class-definitions |                    |          |  |
| TimeInfo                     | TimeInfo                            | Class-definitions |                    |          |  |
| TimeslotList                 | TimeslotList                        | Class-definitions |                    |          |  |
| TimeslotList_r4              | TimeslotList-r4                     | Class-definitions |                    |          |  |
| TimeslotNumber               | TimeslotNumber                      | Class-definitions |                    |          |  |
| TimeslotNumber_LCR<br>_r4    | TimeslotNumber–LCR                  | Class-definitions |                    |          |  |
| TimeslotNumber_PRA CH_LCR_r4 | TimeslotNumber-PRA<br>CH-LCR-r4     | Class-definitions |                    |          |  |
| TimeslotSync2                | TimeslotSync2                       | Class-definitions |                    |          |  |
| TimingOffset                 | TimingOffset                        | Class-definitions |                    |          |  |
| TPC_CombinationInde x        | TPC-CombinationInd ex               | Class-definitions |                    |          |  |
| TPC_StepSizeFDD              | TPC-StepSizeFDD                     | Class-definitions |                    |          |  |
| TPC_StepSizeTDD              | TPC-StepSizeTDD                     | Class-definitions |                    |          |  |
| TreconfirmAbort              | TreconfirmAbort                     | Class-definitions |                    |          |  |
| TX_DiversityMode             | TX-DiversityMode                    | Class-definitions |                    |          |  |
| UARFCN                       | UARFCN                              | Class-definitions |                    |          |  |
| UCSM_Info                    | UCSM-Info                           | Class-definitions |                    |          |  |
| UL_CCTrCH                    | UL-CCTrCH                           | Class-definitions |                    |          |  |
| UL_CCTrCH_r4                 | UL-CCTrCH-r4                        | Class-definitions |                    |          |  |
| UL_CCTrCHList                | UL-CCTrCHList                       | Class-definitions |                    |          |  |
| UL_CCTrCHList_r4             | UL-CCTrCHList-r4                    | Class-definitions |                    |          |  |
| UL_CCTrCHListToRe            | UL-CCTrCHListToRe                   | Class-definitions |                    |          |  |
| move                         | move                                |                   |                    |          |  |

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| Type Name                                      | Type Reference                           | Module Identifier | Encoding Variation | Comments |  |
| UL_CCTrChTPCList                               | UL-CCTrChTPCList                         | Class-definitions |                    |          |  |
| UL_ChannelRequireme nt                         | UL-ChannelRequirem ent                   | Class-definitions |                    |          |  |
| UL_ChannelRequireme nt_r4                      | UL-ChannelRequirem ent-r4                | Class-definitions |                    |          |  |
| UL_ChannelRequireme nt_r5                      | UL-ChannelRequirem ent-r5                | Class-definitions |                    |          |  |
| UL_ChannelRequireme ntWithCPCH_SetID           | UL-ChannelRequirem entWithCPCH-SetID     | Class-definitions |                    |          |  |
| UL_ChannelRequireme<br>ntWithCPCH_SetID_r<br>4 | UL-ChannelRequirem entWithCPCH-SetID -r4 | Class-definitions |                    |          |  |
| UL_ChannelRequireme<br>ntWithCPCH_SetID_r<br>5 | UL-ChannelRequirem entWithCPCH-SetID -r5 | Class-definitions |                    |          |  |
| UL_CompressedMode<br>Method                    | UL-CompressedMode<br>Method              | Class-definitions |                    |          |  |
| UL_DL_Mode                                     | UL-DL-Mode                               | Class-definitions |                    |          |  |
| UL_DPCCH_SlotFor mat                           | UL-DPCCH-SlotFor mat                     | Class-definitions |                    |          |  |
| UL_DPCH_Info                                   | UL-DPCH-Info                             | Class-definitions |                    |          |  |
| UL_DPCH_Info_r4                                | UL-DPCH-Info-r4                          | Class-definitions |                    |          |  |
| UL_DPCH_Info_r5                                | UL-DPCH-Info-r5                          | Class-definitions |                    |          |  |
| UL_DPCH_InfoPrede<br>f                         | UL-DPCH-InfoPrede<br>f                   | Class-definitions |                    |          |  |
| UL_DPCH_PowerCo<br>ntrolInfo                   | UL-DPCH-PowerCo<br>ntrolInfo             | Class-definitions |                    |          |  |
| UL_DPCH_PowerCo<br>ntrolInfo_r4                | UL-DPCH-PowerCo<br>ntrolInfo-r4          | Class-definitions |                    |          |  |
| UL_DPCH_PowerCo<br>ntrolInfo_r5                | UL-DPCH-PowerCo<br>ntrolInfo-r5          | Class-definitions |                    |          |  |
| UL_DPCH_PowerCo<br>ntrolInfoPredef             | UL-DPCH-PowerCo<br>ntrolInfoPredef       | Class-definitions |                    |          |  |
| UL_Interference                                | UL-Interference                          | Class-definitions |                    |          |  |
| UL_ScramblingCode                              | UL-ScramblingCode                        | Class-definitions |                    |          |  |
| UL_SynchronisationP arameters_r4               | UL-SynchronisationP arameters-r4         | Class-definitions |                    |          |  |
| UL_TargetSIR                                   | UL-TargetSIR                             | Class-definitions |                    |          |  |
| UL_TimingAdvance                               | UL-TimingAdvance                         | Class-definitions |                    |          |  |
| UL_TimingAdvanceCo                             | UL-TimingAdvanceControl                  | Class-definitions |                    |          |  |
| UL_TimingAdvanceCo<br>ntrol_r4                 | UL-TimingAdvanceCo<br>ntrol-r4           | Class-definitions |                    |          |  |
| UL_TS_ChannelisationCode                       | UL-TS-Channelisatio<br>nCode             | Class-definitions |                    |          |  |
| UL_TS_Channelisatio<br>nCodeList               | UL-TS-Channelisatio<br>nCodeList         | Class-definitions |                    |          |  |
| UplinkAdditionalTimesl ots                     | UplinkAdditionalTimesl ots               | Class-definitions |                    |          |  |
| UplinkAdditionalTimesl ots_LCR_r4              | UplinkAdditionalTimesl ots-LCR-r4        | Class-definitions |                    |          |  |
| UplinkTimeslotsCodes                           | UplinkTimeslotsCodes                     | Class-definitions |                    |          |  |

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| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| UplinkTimeslotsCodes<br>_LCR_r4     | UplinkTimeslotsCodes<br>-LCR-r4     | Class-definitions |                    |          |  |
| Wi_LCR                              | Wi-LCR                              | Class-definitions |                    |          |  |
| AcquisitionSatInfo                  | AcquisitionSatInfo                  | Class-definitions |                    |          |  |
| AcquisitionSatInfoList              | AcquisitionSatInfoList              | Class-definitions |                    |          |  |
| AdditionalMeasuremen tID_List       | AdditionalMeasuremen tID-List       | Class-definitions |                    |          |  |
| AlmanacSatInfo                      | AlmanacSatInfo                      | Class-definitions |                    |          |  |
| AlmanacSatInfoList                  | AlmanacSatInfoList                  | Class-definitions |                    |          |  |
| AverageRLC_BufferP ayload           | AverageRLC-BufferP ayload           | Class-definitions |                    |          |  |
| AzimuthAndElevation                 | AzimuthAndElevation                 | Class-definitions |                    |          |  |
| BadSatList                          | BadSatList                          | Class-definitions |                    |          |  |
| Frequency_Band                      | Frequency-Band                      | Class-definitions |                    |          |  |
| BCCH_ARFCN                          | BCCH-ARFCN                          | Class-definitions |                    |          |  |
| BLER_MeasurementR esults            | BLER-MeasurementR esults            | Class-definitions |                    |          |  |
| BLER_MeasurementR esultsList        | BLER-MeasurementR esultsList        | Class-definitions |                    |          |  |
| BLER_TransChldList                  | BLER-TransChldList                  | Class-definitions |                    |          |  |
| BSIC_VerificationReq uired          | BSIC-VerificationReq uired          | Class-definitions |                    |          |  |
| BSICReported                        | BSICReported                        | Class-definitions |                    |          |  |
| BurstModeParameters                 | BurstModeParameters                 | Class-definitions |                    |          |  |
| CellDCH_ReportCrite ria             | CellDCH-ReportCrite ria             | Class-definitions |                    |          |  |
| CellDCH_ReportCrite ria_LCR_r4      | CellDCH-ReportCrite ria-LCR-r4      | Class-definitions |                    |          |  |
| CellIndividualOffset                | CellIndividualOffset                | Class-definitions |                    |          |  |
| CellInfo                            | CellInfo                            | Class-definitions |                    |          |  |
| CellInfo_r4                         | CellInfo-r4                         | Class-definitions |                    |          |  |
| CellInfoSI_RSCP                     | CellInfoSI-RSCP                     | Class-definitions |                    |          |  |
| CellInfoSI_RSCP_LC<br>R_r4          | CellInfoSI-RSCP-LC<br>R-r4          | Class-definitions |                    |          |  |
| CellInfoSI_ECN0                     | CellInfoSI-ECN0                     | Class-definitions |                    |          |  |
| CellInfoSI_ECN0_LC<br>R_r4          | CellInfoSI-ECN0-LC<br>R-r4          | Class-definitions |                    |          |  |
| CellInfoSI_HCS_RSC<br>P             | CellInfoSI-HCS-RSC<br>P             | Class-definitions |                    |          |  |
| CellInfoSI_HCS_RSC<br>P_LCR_r4      | CellInfoSI-HCS-RSC<br>P-LCR-r4      | Class-definitions |                    |          |  |
| CellInfoSI_HCS_ECN<br>0             | CellInfoSI-HCS-EC<br>N0             | Class-definitions |                    |          |  |
| CellInfoSI_HCS_ECN<br>0_LCR_r4      | CellInfoSI-HCS-EC<br>N0-LCR-r4      | Class-definitions |                    |          |  |
| CellMeasuredResults                 | CellMeasuredResults                 | Class-definitions |                    |          |  |
| CellMeasurementEven tResults        | CellMeasurementEven tResults        | Class-definitions |                    |          |  |
| CellMeasurementEven tResults_LCR_r4 | CellMeasurementEven tResults-LCR-r4 | Class-definitions |                    |          |  |

|  | ASN.1 Type Definitions By Reference              |                   |                    |          |  |
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| Type Name  | Type Reference                                   | Module Identifier | Encoding Variation | Comments |  |
| CellReportingQuantitie                           | CellReportingQuantitie                           | Class-definitions |                    |          |  |
| S  | S  |                   |                    |          |  |
| CellSelectReselectInfo<br>SIB_11_12              | CellSelectReselectInfo<br>SIB-11-12              | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>SIB_11_12_RSCP         | CellSelectReselectInfo<br>SIB-11-12-RSCP         | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>SIB_11_12_ECN0         | CellSelectReselectInfo<br>SIB-11-12-ECN0         | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>SIB_11_12_HCS_RS<br>CP | CellSelectReselectInfo<br>SIB-11-12-HCS-R<br>SCP | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>SIB_11_12_HCS_EC<br>N0 | CellSelectReselectInfo<br>SIB-11-12-HCS-E<br>CN0 | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>_v590ext               | CellSelectReselectInfo –v590ext                  | Class-definitions |                    |          |  |
| CellSelectReselectInfo<br>PCHFACH_v5b0ext        | CellSelectReselectInfo<br>PCHFACH-v5b0ext        | Class-definitions |                    |          |  |
| CellsForInterFreqMeas<br>List                    | CellsForInterFreqMeas<br>List                    | Class-definitions |                    |          |  |
| CellsForInterRATMeas<br>List                     | CellsForInterRATMeas<br>List                     | Class-definitions |                    |          |  |
| CellsForIntraFreqMeas<br>List                    | CellsForIntraFreqMeas<br>List                    | Class-definitions |                    |          |  |
| CellSynchronisationInf o                         | CellSynchronisationInf o                         | Class-definitions |                    |          |  |
| CellToReport                                     | CellToReport                                     | Class-definitions |                    |          |  |
| CellToReportList                                 | CellToReportList                                 | Class-definitions |                    |          |  |
| CodePhaseSearchWin dow                           | CodePhaseSearchWin dow                           | Class-definitions |                    |          |  |
| CountC_SFN_Frame_ difference                     | CountC-SFN-Frame -difference                     | Class-definitions |                    |          |  |
| CPICH_Ec_N0                                      | CPICH-Ec-N0                                      | Class-definitions |                    |          |  |
| CPICH_RSCP                                       | CPICH-RSCP                                       | Class-definitions |                    |          |  |
| DeltaPRC   | DeltaPRC   | Class-definitions |                    |          |  |
| DeltaQrxlevmin                                   | DeltaQrxlevmin                                   | Class-definitions |                    |          |  |
| DeltaRSCP  | DeltaRSCP  | Class-definitions |                    |          |  |
| DeltaRSCPPerCell                                 | DeltaRSCPPerCell                                 | Class-definitions |                    |          |  |
| DeltaRRC   | DeltaRRC   | Class-definitions |                    |          |  |
| DGPS_CorrectionSatInfo                           | DGPS-CorrectionSat Info                          | Class-definitions |                    |          |  |
| DGPS_CorrectionSatI nfoList                      | DGPS–CorrectionSat<br>InfoList                   | Class-definitions |                    |          |  |
| DiffCorrectionStatus                             | DiffCorrectionStatus                             | Class-definitions |                    |          |  |
| DL_TransportChannel BLER                         | DL-TransportChannel<br>BLER                      | Class-definitions |                    |          |  |
| DopplerUncertainty                               | DopplerUncertainty                               | Class-definitions |                    |          |  |
| EllipsoidPoint                                   | EllipsoidPoint                                   | Class-definitions |                    |          |  |
| EllipsoidPointAltitude                           | EllipsoidPointAltitude                           | Class-definitions |                    |          |  |
| EllipsoidPointAltitudeE<br>Ilipsoide             | EllipsoidPointAltitudeE<br>Ilipsoide             | Class-definitions |                    |          |  |

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| Type Name                                 | Type Reference                                  | Module Identifier | Encoding Variation | Comments |  |
| EllipsoidPointUncertCi rcle               | EllipsoidPointUncertCi rcle                     | Class-definitions |                    |          |  |
| EllipsoidPointUncertEl<br>lipse           | EllipsoidPointUncertEl lipse                    | Class-definitions |                    |          |  |
| EnvironmentCharacte risation              | EnvironmentCharacte risation                    | Class-definitions |                    |          |  |
| Event1a                                   | Event1a   | Class-definitions |                    |          |  |
| Event1a_r4                                | Event1a-r4                                      | Class-definitions |                    |          |  |
| Event1a_LCR_r4                            | Event1a-LCR-r4                                  | Class-definitions |                    |          |  |
| Event1b                                   | Event1b   | Class-definitions |                    |          |  |
| Event1b_r4                                | Event1b-r4                                      | Class-definitions |                    |          |  |
| Event1b_LCR_r4                            | Event1b-LCR-r4                                  | Class-definitions |                    |          |  |
| Event1c                                   | Event1c   | Class-definitions |                    |          |  |
| Event1e                                   | Event1e   | Class-definitions |                    |          |  |
| Event1f                                   | Event1f   | Class-definitions |                    |          |  |
| Event2a                                   | Event2a   | Class-definitions |                    |          |  |
| Event2b                                   | Event2b   | Class-definitions |                    |          |  |
| Event2c                                   | Event2c   | Class-definitions |                    |          |  |
| Event2d                                   | Event2d   | Class-definitions |                    |          |  |
| Event2e                                   | Event2e   | Class-definitions |                    |          |  |
| Event2f                                   | Event2f   | Class-definitions |                    |          |  |
| Event3a                                   | Event3a   | Class-definitions |                    |          |  |
| Event3b                                   | Event3b   | Class-definitions |                    |          |  |
| Event3c                                   | Event3c   | Class-definitions |                    |          |  |
| Event3d                                   | Event3d   | Class-definitions |                    |          |  |
| EventlDInterFreq                          | EventIDInterFreq                                | Class-definitions |                    |          |  |
| EventIDInterRAT                           | EventIDInterRAT                                 | Class-definitions |                    |          |  |
| EventlDIntraFreq                          | <br>  EventIDIntraFreq                          | Class-definitions |                    |          |  |
| EventResults                              | EventResults                                    | Class-definitions |                    |          |  |
| ExtraDopplerInfo                          | ExtraDopplerInfo                                | Class-definitions |                    |          |  |
| FACH_MeasurementO ccasionInfo             | FACH–MeasurementO                               | Class-definitions |                    |          |  |
| FACH_MeasurementO ccasionInfo_LCR_r4_ ext | FACH–MeasurementO<br>ccasionInfo–LCR–r4–<br>ext | Class-definitions |                    |          |  |
| FilterCoefficient                         | FilterCoefficient                               | Class-definitions |                    |          |  |
| FineSFN_SFN                               | FineSFN-SFN                                     | Class-definitions |                    |          |  |
| ForbiddenAffectCell                       | ForbiddenAffectCell                             | Class-definitions |                    |          |  |
| ForbiddenAffectCell_r<br>4                | ForbiddenAffectCell-r<br>4                      | Class-definitions |                    |          |  |
| ForbiddenAffectCell_L<br>CR_r4            | ForbiddenAffectCell–<br>LCR-r4                  | Class-definitions |                    |          |  |
| ForbiddenAffectCellLi<br>st               | ForbiddenAffectCellLi st                        | Class-definitions |                    |          |  |
| ForbiddenAffectCellLi<br>st_r4            | ForbiddenAffectCellLi<br>st-r4                  | Class-definitions |                    |          |  |
| ForbiddenAffectCellLi<br>st_LCR_r4        | ForbiddenAffectCellLi<br>st-LCR-r4              | Class-definitions |                    |          |  |
| FreqQualityEstimateQu antity_FDD          | FreqQualityEstimateQu antity–FDD                | Class-definitions |                    |          |  |

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| Type Name                                 | Type Reference                            | Module Identifier | Encoding Variation | Comments |  |
| FreqQualityEstimateQu antity_TDD          | FreqQualityEstimateQu antity=TDD          | Class-definitions |                    |          |  |
| GPS_MeasurementPar am                     | GPS-MeasurementPa ram                     | Class-definitions |                    |          |  |
| GPS_MeasurementPar amList                 | GPS-MeasurementPa ramList                 | Class-definitions |                    |          |  |
| GSM_CarrierRSSI                           | GSM-CarrierRSSI                           | Class-definitions |                    |          |  |
| GSM_MeasuredResult s                      | GSM-MeasuredResult s                      | Class-definitions |                    |          |  |
| GSM_MeasuredResult sList                  | GSM-MeasuredResult sList                  | Class-definitions |                    |          |  |
| GPS_TOW_1msec                             | GPS-TOW-1msec                             | Class-definitions |                    |          |  |
| GPS_TOW_Assist                            | GPS-TOW-Assist                            | Class-definitions |                    |          |  |
| GPS_TOW_AssistList                        | GPS-TOW-AssistList                        | Class-definitions |                    |          |  |
| HCS_CellReselectInfo rmation_RSCP         | HCS-CellReselectInfo rmation-RSCP         | Class-definitions |                    |          |  |
| HCS_CellReselectInfo rmation_ECN0         | HCS-CellReselectInfo rmation-ECN0         | Class-definitions |                    |          |  |
| HCS_NeighbouringCe<br>IlInformation_RSCP  | HCS-NeighbouringCe<br>IlInformation-RSCP  | Class-definitions |                    |          |  |
| HCS_NeighbouringCe<br>IlInformation_ECN0  | HCS-NeighbouringCe IlInformation-ECN0     | Class-definitions |                    |          |  |
| HCS_PRIO                                  | HCS-PRIO                                  | Class-definitions |                    |          |  |
| HCS_ServingCellInfor mation               | HCS-ServingCellInfo rmation               | Class-definitions |                    |          |  |
| Hysteresis                                | Hysteresis                                | Class-definitions |                    |          |  |
| HysteresisInterFreq                       | HysteresisInterFreq                       | Class-definitions |                    |          |  |
| InterFreqCell                             | InterFreqCell                             | Class-definitions |                    |          |  |
| InterFreqCell_LCR_r4                      | InterFreqCell-LCR-r4                      | Class-definitions |                    |          |  |
| InterFreqCellID                           | InterFreqCellID                           | Class-definitions |                    |          |  |
| InterFreqCellInfoList                     | InterFreqCellInfoList                     | Class-definitions |                    |          |  |
| InterFreqCellInfoList_<br>r4              | InterFreqCellInfoList-<br>r4              | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_RSCP         | InterFreqCellInfoSI-Li<br>st-RSCP         | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_ECN0         | InterFreqCellInfoSI-Li<br>st-ECN0         | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_HCS_RSCP     | InterFreqCellInfoSI-Li<br>st-HCS-RSCP     | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_HCS_ECN0     | InterFreqCellInfoSI-Li<br>st-HCS-ECN0     | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_RSCP_LCR     | InterFreqCellInfoSI-Li<br>st-RSCP-LCR     | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_ECN0_LCR     | InterFreqCellInfoSI-Li<br>st-ECN0-LCR     | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_HCS_RSCP_LCR | InterFreqCellInfoSI-Li<br>st-HCS-RSCP-LCR | Class-definitions |                    |          |  |
| InterFreqCellInfoSI_Li<br>st_HCS_ECN0_LCR | InterFreqCellInfoSI-Li<br>st-HCS-ECN0-LCR | Class-definitions |                    |          |  |
| InterFreqCellList                         | InterFreqCellList                         | Class-definitions |                    |          |  |
| InterFreqCellList_LCR<br>_r4_ext          | InterFreqCellList-LCR<br>-r4-ext          | Class-definitions |                    |          |  |

|   | ASN.1 Type Definitions By Reference                 |                   |                    |          |  |
|---|---|-------------------|--------------------|----------|--|
| Type Name   | Type Reference                                      | Module Identifier | Encoding Variation | Comments |  |
| InterFreqCellMeasured<br>ResultsList                | InterFreqCellMeasured ResultsList                   | Class-definitions |                    |          |  |
| InterFreqEvent                                      | InterFreqEvent                                      | Class-definitions |                    |          |  |
| InterFreqEventList                                  | InterFreqEventList                                  | Class-definitions |                    |          |  |
| InterFrequencyMeasur<br>edResultsList_v590ex<br>t   | InterFrequencyMeasur<br>edResultsList-v590ex<br>t   | Class-definitions |                    |          |  |
| Inter_FreqEventCriter ia_v590ext                    | Inter–FreqEventCriter ia–v590ext                    | Class-definitions |                    |          |  |
| Inter_FreqEventCriter iaList_v590ext                | Inter-FreqEventCriter iaList-v590ext                | Class-definitions |                    |          |  |
| Intra_FreqEventCriter iaList_v590ext                | Intra-FreqEventCriter iaList-v590ext                | Class-definitions |                    |          |  |
| IntraFrequencyMeasur<br>edResultsList_v590ex<br>t   | IntraFrequencyMeasur<br>edResultsList-v590ex<br>t   | Class-definitions |                    |          |  |
| IntraFreqReportingCri<br>teria_1b_r5                | IntraFreqReportingCri<br>teria-1b-r5                | Class-definitions |                    |          |  |
| PeriodicReportingInfo<br>_1b                        | PeriodicReportingInfo –1b                           | Class-definitions |                    |          |  |
| InterFreqEventResults                               | InterFreqEventResults                               | Class-definitions |                    |          |  |
| InterFreqEventResults<br>_LCR_r4_ext                | InterFreqEventResults -LCR-r4-ext                   | Class-definitions |                    |          |  |
| InterFreqMeasQuantit<br>y                           | InterFreqMeasQuantit<br>y                           | Class-definitions |                    |          |  |
| InterFreqMeasuredRes ults                           | InterFreqMeasuredRes ults                           | Class-definitions |                    |          |  |
| InterFreqMeasuredRes<br>ultsList                    | InterFreqMeasuredRes ultsList                       | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_RSCP                | InterFreqMeasurement<br>SysInfo-RSCP                | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_ECN0                | InterFreqMeasurement<br>SysInfo-ECN0                | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_HCS_RSCP            | InterFreqMeasurement<br>SysInfo-HCS-RSCP            | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_HCS_ECN0            | InterFreqMeasurement<br>SysInfo-HCS-ECN0            | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_RSCP_LCR_<br>r4     | InterFreqMeasurement<br>SysInfo-RSCP-LCR<br>-r4     | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_ECN0_LCR_<br>r4     | InterFreqMeasurement<br>SysInfo-ECN0-LCR<br>-r4     | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_HCS_RSCP<br>_LCR_r4 | InterFreqMeasurement<br>SysInfo-HCS-RSCP<br>-LCR-r4 | Class-definitions |                    |          |  |
| InterFreqMeasurement<br>SysInfo_HCS_ECN0<br>_LCR_r4 | InterFreqMeasurement<br>SysInfo-HCS-ECN0<br>-LCR-r4 | Class-definitions |                    |          |  |
| InterFreqReportCriteri<br>a                         | InterFreqReportCriteri<br>a                         | Class-definitions |                    |          |  |
| InterFreqReportCriteri<br>a_r4                      | InterFreqReportCriteri<br>a-r4                      | Class-definitions |                    |          |  |

| Continued from previous pa            | ASN.1 Type Definitions By Reference   |                   |                    |          |  |
|---------------------------------------|---------------------------------------|-------------------|--------------------|----------|--|
| Type Name                             | Type Reference                        | Module Identifier | Encoding Variation | Comments |  |
| InterFreqReportingCri<br>teria        | InterFreqReportingCri teria           | Class-definitions |                    |          |  |
| InterFreqReportingQu<br>antity        | InterFreqReportingQu antity           | Class-definitions |                    |          |  |
| InterFrequencyMeasur<br>ement         | InterFrequencyMeasur ement            | Class-definitions |                    |          |  |
| InterFrequencyMeasur<br>ement_r4      | InterFrequencyMeasur<br>ement-r4      | Class-definitions |                    |          |  |
| InterRAT_TargetCellD escription       | InterRAT-TargetCellD escription       | Class-definitions |                    |          |  |
| InterRATCellID                        | InterRATCellID                        | Class-definitions |                    |          |  |
| InterRATCellInfoIndica tion           | InterRATCellInfoIndica tion           | Class-definitions |                    |          |  |
| InterRATCellInfoList                  | InterRATCellInfoList                  | Class-definitions |                    |          |  |
| InterRATCellInfoList_<br>B            | InterRATCellInfoList-<br>B            | Class-definitions |                    |          |  |
| InterRATCellInfoList_r<br>4           | InterRATCellInfoList-r<br>4           | Class-definitions |                    |          |  |
| InterRATCellIndividual<br>Offset      | InterRATCellIndividual Offset         | Class-definitions |                    |          |  |
| InterRATEvent                         | InterRATEvent                         | Class-definitions |                    |          |  |
| InterRATEventList                     | InterRATEventList                     | Class-definitions |                    |          |  |
| InterRATEventResults                  | InterRATEventResults                  | Class-definitions |                    |          |  |
| InterRATInfo                          | InterRATInfo                          | Class-definitions |                    |          |  |
| InterRATMeasQuantity                  | InterRATMeasQuantity                  | Class-definitions |                    |          |  |
| InterRATMeasuredRes<br>ults           | InterRATMeasuredRes ults              | Class-definitions |                    |          |  |
| InterRATMeasuredRes<br>ultsList       | InterRATMeasuredRes ultsList          | Class-definitions |                    |          |  |
| InterRATMeasurement                   | InterRATMeasurement                   | Class-definitions |                    |          |  |
| InterRATMeasurement<br>_r4            | InterRATMeasurement –r4               | Class-definitions |                    |          |  |
| InterRATMeasurement<br>SysInfo        | InterRATMeasurement<br>SysInfo        | Class-definitions |                    |          |  |
| InterRATMeasurement SysInfo_B         | InterRATMeasurement<br>SysInfo-B      | Class-definitions |                    |          |  |
| InterRATReportCriteri<br>a            | InterRATReportCriteri<br>a            | Class-definitions |                    |          |  |
| InterRATReportingCrit eria            | InterRATReportingCrit eria            | Class-definitions |                    |          |  |
| InterRATReportingQua ntity            | InterRATReportingQua ntity            | Class-definitions |                    |          |  |
| IntraFreqCellID                       | IntraFreqCellID                       | Class-definitions |                    |          |  |
| IntraFreqCellInfoList                 | IntraFreqCellInfoList                 | Class-definitions |                    |          |  |
| IntraFreqCellInfoList_<br>r4          | IntraFreqCellInfoList-<br>r4          | Class-definitions |                    |          |  |
| IntraFreqCellInfoSI_Li<br>st_RSCP     | IntraFreqCellInfoSI-Li<br>st-RSCP     | Class-definitions |                    |          |  |
| IntraFreqCellInfoSI_Li<br>st_ECN0     | IntraFreqCellInfoSI-Li<br>st-ECN0     | Class-definitions |                    |          |  |
| IntraFreqCellInfoSI_Li<br>st_HCS_RSCP | IntraFreqCellInfoSI-Li<br>st-HCS-RSCP | Class-definitions |                    |          |  |

| ASN.1 Type Definitions By Reference              |  |                   |                    |          |
|--|--|-------------------|--------------------|----------|
| Type Name  | Type Reference                                   | Module Identifier | Encoding Variation | Comments |
| IntraFreqCellInfoSI_Li<br>st_HCS_ECN0            | IntraFreqCellInfoSI-Li<br>st-HCS-ECN0            | Class-definitions |                    |          |
| IntraFreqCellInfoSI_Li<br>st_RSCP_LCR_r4         | IntraFreqCellInfoSI–Li<br>st–RSCP–LCR–r4         | Class-definitions |                    |          |
| IntraFreqCellInfoSI_Li<br>st_ECN0_LCR_r4         | IntraFreqCellInfoSI-Li<br>st-ECN0-LCR-r4         | Class-definitions |                    |          |
| IntraFreqCellInfoSI_Li<br>st_HCS_RSCP_LCR<br>_r4 | IntraFreqCellInfoSI-Li<br>st-HCS-RSCP-LCR<br>-r4 | Class-definitions |                    |          |
| IntraFreqCellInfoSI_Li<br>st_HCS_ECN0_LCR<br>_r4 | IntraFreqCellInfoSI-Li<br>st-HCS-ECN0-LCR<br>-r4 | Class-definitions |                    |          |
| IntraFreqEvent                                   | IntraFreqEvent                                   | Class-definitions |                    |          |
| IntraFreqEvent_r4                                | IntraFreqEvent-r4                                | Class-definitions |                    |          |
| IntraFreqEvent_LCR_<br>r4                        | IntraFreqEvent-LCR<br>-r4                        | Class-definitions |                    |          |
| IntraFreqEvent_1d_r5                             | IntraFreqEvent-1d-r<br>5                         | Class-definitions |                    |          |
| IntraFreqEventCriteria                           | IntraFreqEventCriteria                           | Class-definitions |                    |          |
| IntraFreqEventCriteria<br>_r4                    | IntraFreqEventCriteria<br>-r4                    | Class-definitions |                    |          |
| IntraFreqEventCriteria<br>_LCR_r4                | IntraFreqEventCriteria<br>-LCR-r4                | Class-definitions |                    |          |
| IntraFreqEventCriteria<br>List                   | IntraFreqEventCriteria<br>List                   | Class-definitions |                    |          |
| IntraFreqEventCriteria<br>List_r4                | IntraFreqEventCriteria<br>List-r4                | Class-definitions |                    |          |
| IntraFreqEventCriteria<br>List_LCR_r4            | IntraFreqEventCriteria<br>List-LCR-r4            | Class-definitions |                    |          |
| IntraFreqEventResults                            | IntraFreqEventResults                            | Class-definitions |                    |          |
| IntraFreqMeasQuantit<br>y                        | IntraFreqMeasQuantit y                           | Class-definitions |                    |          |
| IntraFreqMeasQuantit<br>y_FDD                    | IntraFreqMeasQuantit y–FDD                       | Class-definitions |                    |          |
| IntraFreqMeasQuantit<br>y_TDD                    | IntraFreqMeasQuantit y-TDD                       | Class-definitions |                    |          |
| IntraFreqMeasQuantit y_TDDList                   | IntraFreqMeasQuantit y-TDDList                   | Class-definitions |                    |          |
| IntraFreqMeasuredRes<br>ultsList                 | IntraFreqMeasuredRes ultsList                    | Class-definitions |                    |          |
| IntraFreqMeasurement<br>SysInfo_RSCP             | IntraFreqMeasurement<br>SysInfo-RSCP             | Class-definitions |                    |          |
| IntraFreqMeasurement<br>SysInfo_ECN0             | IntraFreqMeasurement<br>SysInfo-ECN0             | Class-definitions |                    |          |
| IntraFreqMeasurement<br>SysInfo_HCS_RSCP         | IntraFreqMeasurement<br>SysInfo-HCS-RSCP         | Class-definitions |                    |          |
| IntraFreqMeasurement<br>SysInfo_HCS_ECN0         | IntraFreqMeasurement<br>SysInfo-HCS-ECN0         | Class-definitions |                    |          |
| IntraFreqMeasurement<br>SysInfo_RSCP_LCR_<br>r4  | IntraFreqMeasurement SysInfo-RSCP-LCR -r4        | Class-definitions |                    |          |

| Continued from previous pag                         | ASN.1 Type Definitions By Reference                 |                   |                    |          |  |
|---|---|-------------------|--------------------|----------|--|
| Type Name   | Type Reference                                      | Module Identifier | Encoding Variation | Comments |  |
| IntraFreqMeasurement<br>SysInfo_ECN0_LCR_<br>r4     | IntraFreqMeasurement<br>SysInfo-ECN0-LCR<br>-r4     | Class-definitions |                    |          |  |
| IntraFreqMeasurement<br>SysInfo_HCS_RSCP<br>_LCR_r4 | IntraFreqMeasurement<br>SysInfo-HCS-RSCP<br>-LCR-r4 | Class-definitions |                    |          |  |
| IntraFreqMeasurement<br>SysInfo_HCS_ECN0<br>_LCR_r4 | IntraFreqMeasurement<br>SysInfo-HCS-ECN0<br>-LCR-r4 | Class-definitions |                    |          |  |
| IntraFreqReportCriteri<br>a                         | IntraFreqReportCriteri<br>a                         | Class-definitions |                    |          |  |
| IntraFreqReportCriteri<br>a_r4                      | IntraFreqReportCriteri<br>a-r4                      | Class-definitions |                    |          |  |
| IntraFreqReportingCri<br>teria                      | IntraFreqReportingCri<br>teria                      | Class-definitions |                    |          |  |
| IntraFreqReportingCri<br>teria_r4                   | IntraFreqReportingCri<br>teria-r4                   | Class-definitions |                    |          |  |
| IntraFreqReportingCri<br>teria_LCR_r4               | IntraFreqReportingCri<br>teria-LCR-r4               | Class-definitions |                    |          |  |
| IntraFreqReportingQu<br>antity                      | IntraFreqReportingQu<br>antity                      | Class-definitions |                    |          |  |
| IntraFreqReportingQu<br>antityForRACH               | IntraFreqReportingQu<br>antityForRACH               | Class-definitions |                    |          |  |
| IntraFreqRepQuantity<br>RACH_FDD                    | IntraFreqRepQuantity<br>RACH-FDD                    | Class-definitions |                    |          |  |
| IntraFreqRepQuantity<br>RACH_TDD                    | IntraFreqRepQuantity<br>RACH-TDD                    | Class-definitions |                    |          |  |
| IntraFreqRepQuantity<br>RACH_TDDList                | IntraFreqRepQuantity<br>RACH-TDDList                | Class-definitions |                    |          |  |
| IntraFrequencyMeasur ement                          | IntraFrequencyMeasur ement                          | Class-definitions |                    |          |  |
| IntraFrequencyMeasur<br>ement_r4                    | IntraFrequencyMeasur<br>ement-r4                    | Class-definitions |                    |          |  |
| IODE  | IODE  | Class-definitions |                    |          |  |
| IP_Length   | IP-Length   | Class-definitions |                    |          |  |
| IP_PCCPCH_r4  | IP-PCCPCH-r4  | Class-definitions |                    |          |  |
| IP_Spacing  | IP-Spacing  | Class-definitions |                    |          |  |
| IP_Spacing_TDD                                      | IP-Spacing-TDD                                      | Class-definitions |                    |          |  |
| IS_2000SpecificMeasI<br>nfo                         | IS-2000SpecificMeasI<br>nfo                         | Class-definitions |                    |          |  |
| MaxNumberOfReporti<br>ngCellsType1                  | MaxNumberOfReporti ngCellsType1                     | Class-definitions |                    |          |  |
| MaxNumberOfReporti<br>ngCellsType2                  | MaxNumberOfReporti ngCellsType2                     | Class-definitions |                    |          |  |
| MaxNumberOfReporti<br>ngCellsType3                  | MaxNumberOfReporti ngCellsType3                     | Class-definitions |                    |          |  |
| MaxReportedCellsOn<br>RACH                          | MaxReportedCellsOn<br>RACH                          | Class-definitions |                    |          |  |
| MeasuredResults                                     | MeasuredResults                                     | Class-definitions |                    |          |  |
| MeasuredResults_v39<br>0ext                         | MeasuredResults-v39<br>0ext                         | Class-definitions |                    |          |  |
| MeasuredResults_v59<br>0ext                         | MeasuredResults-v59<br>0ext                         | Class-definitions |                    |          |  |

|                                       | ASN.1 Type Definitions By Reference   |                   |                    |          |  |
|---------------------------------------|---------------------------------------|-------------------|--------------------|----------|--|
| Type Name                             | Type Reference                        | Module Identifier | Encoding Variation | Comments |  |
| MeasuredResults_LCR<br>_r4            | MeasuredResults-LCR<br>-r4            | Class-definitions |                    |          |  |
| MeasuredResultsList                   | MeasuredResultsList                   | Class-definitions |                    |          |  |
| MeasuredResultsList_<br>LCR_r4_ext    | MeasuredResultsList-<br>LCR-r4-ext    | Class-definitions |                    |          |  |
| MeasuredResultsOnRA<br>CH             | MeasuredResultsOnRA<br>CH             | Class-definitions |                    |          |  |
| MeasurementComman<br>d                | MeasurementComman d                   | Class-definitions |                    |          |  |
| MeasurementComman<br>d_r4             | MeasurementComman<br>d-r4             | Class-definitions |                    |          |  |
| MeasurementControlS ysInfo            | MeasurementControlS ysInfo            | Class-definitions |                    |          |  |
| MeasurementControlS ysInfo_LCR_r4_ext | MeasurementControlS ysInfo-LCR-r4-ext | Class-definitions |                    |          |  |
| MeasurementIdentity                   | MeasurementIdentity                   | Class-definitions |                    |          |  |
| MeasurementQuantity<br>GSM            | MeasurementQuantity<br>GSM            | Class-definitions |                    |          |  |
| MeasurementReportin gMode             | MeasurementReportin gMode             | Class-definitions |                    |          |  |
| MeasurementType                       | MeasurementType                       | Class-definitions |                    |          |  |
| MeasurementType_r4                    | MeasurementType-r4                    | Class-definitions |                    |          |  |
| MeasurementValidity                   | MeasurementValidity                   | Class-definitions |                    |          |  |
| MonitoredCellRACH_<br>List            | MonitoredCellRACH-<br>List            | Class-definitions |                    |          |  |
| MonitoredCellRACH_<br>Result          | MonitoredCellRACH-<br>Result          | Class-definitions |                    |          |  |
| MultipathIndicator                    | MultipathIndicator                    | Class-definitions |                    |          |  |
| N_CR_T_CRMaxHyst                      | N-CR-T-CRMaxHys<br>t                  | Class-definitions |                    |          |  |
| NavigationModelSatIn fo               | NavigationModelSatIn fo               | Class-definitions |                    |          |  |
| NavigationModelSatIn foList           | NavigationModelSatIn foList           | Class-definitions |                    |          |  |
| EphemerisParameter                    | EphemerisParameter                    | Class-definitions |                    |          |  |
| NC_Mode                               | NC-Mode                               | Class-definitions |                    |          |  |
| Neighbour                             | Neighbour                             | Class-definitions |                    |          |  |
| Neighbour_v390ext                     | Neighbour-v390ext                     | Class-definitions |                    |          |  |
| NeighbourList                         | NeighbourList                         | Class-definitions |                    |          |  |
| NeighbourList_v390e<br>xt             | NeighbourList-v390e<br>xt             | Class-definitions |                    |          |  |
| NeighbourQuality                      | NeighbourQuality                      | Class-definitions |                    |          |  |
| NewInterFreqCell                      | NewInterFreqCell                      | Class-definitions |                    |          |  |
| NewInterFreqCell_r4                   | NewInterFreqCell-r4                   | Class-definitions |                    |          |  |
| NewInterFreqCellList                  | NewInterFreqCellList                  | Class-definitions |                    |          |  |
| NewInterFreqCellList_<br>r4           | NewInterFreqCellList-<br>r4           | Class-definitions |                    |          |  |
| NewInterFreqCellSI_R<br>SCP           | NewInterFreqCellSI-R<br>SCP           | Class-definitions |                    |          |  |
| NewInterFreqCellSI_E<br>CN0           | NewInterFreqCellSI-E<br>CN0           | Class-definitions |                    |          |  |

|   | ASN.1 Type Definitions By Reference             |                   |                    |          |
|---|---|-------------------|--------------------|----------|
| Type Name                                       | Type Reference                                  | Module Identifier | Encoding Variation | Comments |
| NewInterFreqCellSI_H<br>CS_RSCP                 | NewInterFreqCellSI-<br>HCS-RSCP                 | Class-definitions |                    |          |
| NewInterFreqCellSI_H<br>CS_ECN0                 | NewInterFreqCellSI-<br>HCS-ECN0                 | Class-definitions |                    |          |
| NewInterFreqCellSI_R<br>SCP_LCR_r4              | NewInterFreqCellSI-R<br>SCP-LCR-r4              | Class-definitions |                    |          |
| NewInterFreqCellSI_E<br>CN0_LCR_r4              | NewInterFreqCellSI-E<br>CN0-LCR-r4              | Class-definitions |                    |          |
| NewInterFreqCellSI_H<br>CS_RSCP_LCR_r4          | NewInterFreqCellSI-<br>HCS-RSCP-LCR-r4          | Class-definitions |                    |          |
| NewInterFreqCellSI_H<br>CS_ECN0_LCR_r4          | NewInterFreqCellSI-<br>HCS-ECN0-LCR-r4          | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_ECN0                | NewInterFreqCellSI-L ist-ECN0                   | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_HCS_RSCP            | NewInterFreqCellSI-L ist-HCS-RSCP               | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_HCS_ECN0            | NewInterFreqCellSI-L ist-HCS-ECN0               | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_RSCP                | NewInterFreqCellSI-L ist-RSCP                   | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_ECN0_LCR_r4         | NewInterFreqCellSI-L<br>ist-ECN0-LCR-r4         | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_HCS_RSCP_LCR<br>_r4 | NewInterFreqCellSI-L<br>ist-HCS-RSCP-LCR<br>-r4 | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_HCS_ECN0_LCR<br>_r4 | NewInterFreqCellSI-L<br>ist-HCS-ECN0-LCR<br>-r4 | Class-definitions |                    |          |
| NewInterFreqCellSI_Li<br>st_RSCP_LCR_r4         | NewInterFreqCellSI-L<br>ist-RSCP-LCR-r4         | Class-definitions |                    |          |
| NewInterRATCell                                 | NewInterRATCell                                 | Class-definitions |                    |          |
| NewInterRATCell_B                               | NewInterRATCell-B                               | Class-definitions |                    |          |
| NewInterRATCellList                             | NewInterRATCellList                             | Class-definitions |                    |          |
| NewInterRATCellList_<br>B                       | NewInterRATCellList-<br>B                       | Class-definitions |                    |          |
| NewIntraFreqCell                                | NewIntraFreqCell                                | Class-definitions |                    |          |
| NewIntraFreqCell_r4                             | NewIntraFreqCell-r4                             | Class-definitions |                    |          |
| NewIntraFreqCellList                            | NewIntraFreqCellList                            | Class-definitions |                    |          |
| NewIntraFreqCellList_<br>r4                     | NewIntraFreqCellList-<br>r4                     | Class-definitions |                    |          |
| NewIntraFreqCellSI_R<br>SCP                     | NewIntraFreqCellSI-R<br>SCP                     | Class-definitions |                    |          |
| NewIntraFreqCellSI_E<br>CN0                     | NewIntraFreqCellSI-E<br>CN0                     | Class-definitions |                    |          |
| NewIntraFreqCellSI_H<br>CS_RSCP                 | NewIntraFreqCellSI-<br>HCS-RSCP                 | Class-definitions |                    |          |
| NewIntraFreqCellSI_H<br>CS_ECN0                 | NewIntraFreqCellSI-<br>HCS-ECN0                 | Class-definitions |                    |          |
| NewIntraFreqCellSI_R<br>SCP_LCR_r4              | NewIntraFreqCellSI-R<br>SCP-LCR-r4              | Class-definitions |                    |          |
| NewIntraFreqCellSI_E<br>CN0_LCR_r4              | NewIntraFreqCellSI-E<br>CN0-LCR-r4              | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference             |   |                   |                    |          |
|---|---|-------------------|--------------------|----------|
| Type Name                                       | Type Reference                                  | Module Identifier | Encoding Variation | Comments |
| NewIntraFreqCellSI_H<br>CS_RSCP_LCR_r4          | NewIntraFreqCellSI-<br>HCS-RSCP-LCR-r4          | Class-definitions |                    |          |
| NewIntraFreqCellSI_H<br>CS_ECN0_LCR_r4          | NewIntraFreqCellSI-<br>HCS-ECN0-LCR-r4          | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_RSCP                | NewIntraFreqCellSI-L ist-RSCP                   | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_ECN0                | NewIntraFreqCellSI-L ist-ECN0                   | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_HCS_RSCP            | NewIntraFreqCellSI-L ist-HCS-RSCP               | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_HCS_ECN0            | NewIntraFreqCellSI-L<br>ist-HCS-ECN0            | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_RSCP_LCR_r4         | NewIntraFreqCellSI-L ist-RSCP-LCR-r4            | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_ECN0_LCR_r4         | NewIntraFreqCellSI-L<br>ist-ECN0-LCR-r4         | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_HCS_RSCP_LCR<br>_r4 | NewIntraFreqCellSI-L<br>ist-HCS-RSCP-LCR<br>-r4 | Class-definitions |                    |          |
| NewIntraFreqCellSI_Li<br>st_HCS_ECN0_LCR<br>_r4 | NewIntraFreqCellSI-L<br>ist-HCS-ECN0-LCR<br>-r4 | Class-definitions |                    |          |
| NonUsedFreqParamet er                           | NonUsedFreqParamet er                           | Class-definitions |                    |          |
| NonUsedFreqParamet erList                       | NonUsedFreqParamet erList                       | Class-definitions |                    |          |
| ObservedTimeDifferen ceToGSM                    | ObservedTimeDifferen ceToGSM                    | Class-definitions |                    |          |
| OTDOA_SearchWindo wSize                         | OTDOA-SearchWindo wSize                         | Class-definitions |                    |          |
| Pathloss  | Pathloss  | Class-definitions |                    |          |
| PenaltyTime_RSCP                                | PenaltyTime-RSCP                                | Class-definitions |                    |          |
| PenaltyTime_ECN0                                | PenaltyTime-ECN0                                | Class-definitions |                    |          |
| PendingTimeAfterTrigg er                        | PendingTimeAfterTrigg er                        | Class-definitions |                    |          |
| PeriodicalOrEventTrig ger                       | PeriodicalOrEventTrig ger                       | Class-definitions |                    |          |
| PeriodicalReportingCri teria                    | PeriodicalReportingCri teria                    | Class-definitions |                    |          |
| PeriodicalWithReportin gCellStatus              | PeriodicalWithReportin gCellStatus              | Class-definitions |                    |          |
| PLMNIdentitiesOfNeig hbourCells                 | PLMNIdentitiesOfNeig hbourCells                 | Class-definitions |                    |          |
| PLMNsOfInterFreqCel<br>IsList                   | PLMNsOfInterFreqCel<br>IsList                   | Class-definitions |                    |          |
| PLMNsOfIntraFreqCel<br>IsList                   | PLMNsOfIntraFreqCel<br>IsList                   | Class-definitions |                    |          |
| PLMNsOfInterRATCell sList                       | PLMNsOfInterRATCell sList                       | Class-definitions |                    |          |
| PositionEstimate                                | PositionEstimate                                | Class-definitions |                    |          |
| PositioningMethod                               | PositioningMethod                               | Class-definitions |                    |          |
| PRC   | PRC   | Class-definitions |                    |          |

|                                 | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|---------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                       | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| PrimaryCCPCH_RSC                | PrimaryCCPCH-RSC                    | Class-definitions |                    |          |  |
| P                               | P                                   |                   |                    |          |  |
| Q_HCS                           | Q-HCS                               | Class-definitions |                    |          |  |
| Q_OffsetS_N                     | Q-OffsetS-N                         | Class-definitions |                    |          |  |
| Q_QualMin                       | Q–QualMin                           | Class-definitions |                    |          |  |
| Q_RxlevMin                      | Q-RxlevMin                          | Class-definitions |                    |          |  |
| QualityEventResults             | QualityEventResults                 | Class-definitions |                    |          |  |
| QualityMeasuredResult s         | QualityMeasuredResult s             | Class-definitions |                    |          |  |
| QualityMeasurement              | QualityMeasurement                  | Class-definitions |                    |          |  |
| QualityReportCriteria           | QualityReportCriteria               | Class-definitions |                    |          |  |
| QualityReportingCriter ia       | QualityReportingCriter ia           | Class-definitions |                    |          |  |
| QualityReportingCriter iaSingle | QualityReportingCriter iaSingle     | Class-definitions |                    |          |  |
| QualityReportingQuant ity       | QualityReportingQuant ity           | Class-definitions |                    |          |  |
| RAT_Type                        | RAT-Type                            | Class-definitions |                    |          |  |
| ReferenceCellPosition           | ReferenceCellPosition               | Class-definitions |                    |          |  |
| ReferenceLocation               | ReferenceLocation                   | Class-definitions |                    |          |  |
| ReferenceTimeDifferen ceToCell  | ReferenceTimeDifferen ceToCell      | Class-definitions |                    |          |  |
| RemovedInterFreqCell<br>List    | RemovedInterFreqCell List           | Class-definitions |                    |          |  |
| RemovedInterRATCell<br>List     | RemovedInterRATCell List            | Class-definitions |                    |          |  |
| RemovedIntraFreqCell<br>List    | RemovedIntraFreqCell<br>List        | Class-definitions |                    |          |  |
| ReplacementActivation Threshold | ReplacementActivation Threshold     | Class-definitions |                    |          |  |
| ReportDeactivationThr eshold    | ReportDeactivationThr eshold        | Class-definitions |                    |          |  |
| ReportingAmount                 | ReportingAmount                     | Class-definitions |                    |          |  |
| ReportingCellStatus             | ReportingCellStatus                 | Class-definitions |                    |          |  |
| ReportingCellStatusO pt         | ReportingCellStatusO pt             | Class-definitions |                    |          |  |
| ReportingInfoForCell DCH        | ReportingInfoForCell DCH            | Class-definitions |                    |          |  |
| ReportingInfoForCell DCH_LCR_r4 | ReportingInfoForCell<br>DCH-LCR-r4  | Class-definitions |                    |          |  |
| ReportingInterval               | ReportingInterval                   | Class-definitions |                    |          |  |
| ReportingIntervalLong           | ReportingIntervalLong               | Class-definitions |                    |          |  |
| ReportingRange                  | ReportingRange                      | Class-definitions |                    |          |  |
| RL_AdditionInfoList             | RL-AdditionInfoList                 | Class-definitions |                    |          |  |
| RL_InformationLists             | RL-InformationLists                 | Class-definitions |                    |          |  |
| RLC_BuffersPayload              | RLC-BuffersPayload                  | Class-definitions |                    |          |  |
| RRC                             | RRC                                 | Class-definitions |                    |          |  |
| SatData                         | SatData                             | Class-definitions |                    |          |  |
| SatDataList                     | SatDataList                         | Class-definitions |                    |          |  |
| SatelliteStatus                 | SatelliteStatus                     | Class-definitions |                    |          |  |

| Continued from previous pa          | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| SatID                               | SatID                               | Class-definitions |                    |          |  |
| SFN_Offset_Validity                 | SFN-Offset-Validity                 | Class-definitions |                    |          |  |
| SFN_SFN_Drift                       | SFN-SFN-Drift                       | Class-definitions |                    |          |  |
| SFN_SFN_ObsTimeDi fference          | SFN-SFN-ObsTimeDi fference          | Class-definitions |                    |          |  |
| SFN_SFN_ObsTimeDi fference1         | SFN-SFN-ObsTimeDi<br>fference1      | Class-definitions |                    |          |  |
| SFN_SFN_ObsTimeDi<br>fference2      | SFN-SFN-ObsTimeDi<br>fference2      | Class-definitions |                    |          |  |
| SFN_SFN_OTD_Type                    | SFN-SFN-OTD-Type                    | Class-definitions |                    |          |  |
| SFN_SFN_RelTimeDif ference1         | SFN-SFN-RelTimeDif ference1         | Class-definitions |                    |          |  |
| SFN_TOW_Uncertaint y                | SFN-TOW-Uncertain ty                | Class-definitions |                    |          |  |
| SIR                                 | SIR                                 | Class-definitions |                    |          |  |
| SIR_MeasurementList                 | SIR-MeasurementList                 | Class-definitions |                    |          |  |
| SIR_MeasurementRes ults             | SIR-MeasurementRes ults             | Class-definitions |                    |          |  |
| SIR_TFCS                            | SIR-TFCS                            | Class-definitions |                    |          |  |
| SIR_TFCS_List                       | SIR-TFCS-List                       | Class-definitions |                    |          |  |
| SIR_TimeslotList                    | SIR-TimeslotList                    | Class-definitions |                    |          |  |
| SubFrame1Reserved                   | SubFrame1Reserved                   | Class-definitions |                    |          |  |
| T_ADVinfo                           | T-ADVinfo                           | Class-definitions |                    |          |  |
| T_CRMax                             | T-CRMax                             | Class-definitions |                    |          |  |
| T_CRMaxHyst                         | T-CRMaxHyst                         | Class-definitions |                    |          |  |
| TemporaryOffset1                    | TemporaryOffset1                    | Class-definitions |                    |          |  |
| TemporaryOffset2                    | TemporaryOffset2                    | Class-definitions |                    |          |  |
| TemporaryOffsetList                 | TemporaryOffsetList                 | Class-definitions |                    |          |  |
| Threshold                           | Threshold                           | Class-definitions |                    |          |  |
| ThreholdNonUsedFreq uency_deltaList | ThreholdNonUsedFreq uency-deltaList | Class-definitions |                    |          |  |
| ThresholdPositionCha nge            | ThresholdPositionCha nge            | Class-definitions |                    |          |  |
| ThresholdSFN_GPS_T<br>OW            | ThresholdSFN-GPS-<br>TOW            | Class-definitions |                    |          |  |
| ThresholdSFN_SFN_<br>Change         | ThresholdSFN-SFN-<br>Change         | Class-definitions |                    |          |  |
| ThresholdUsedFreque ncy             | ThresholdUsedFreque ncy             | Class-definitions |                    |          |  |
| TimeInterval                        | TimeInterval                        | Class-definitions |                    |          |  |
| TimeslotInfo                        | TimeslotInfo                        | Class-definitions |                    |          |  |
| TimeslotInfo_LCR_r4                 | TimeslotInfo-LCR-r4                 | Class-definitions |                    |          |  |
| TimeslotInfoList                    | TimeslotInfoList                    | Class-definitions |                    |          |  |
| TimeslotInfoList_LCR<br>_r4         | TimeslotInfoList–LCR<br>–r4         | Class-definitions |                    |          |  |
| TimeslotInfoList_r4                 | TimeslotInfoList-r4                 | Class-definitions |                    |          |  |
| TimeslotISCP                        | TimeslotISCP                        | Class-definitions |                    |          |  |
| TimeslotISCP_List                   | TimeslotISCP-List                   | Class-definitions |                    |          |  |
| TimeslotListWithISCP                | TimeslotListWithISCP                | Class-definitions |                    |          |  |
| TimeslotWithISCP                    | TimeslotWithISCP                    | Class-definitions |                    |          |  |

| Continued from previous pag         | ASN.1 Type Definitions By Reference |                   |                    |          |
|-------------------------------------|-------------------------------------|-------------------|--------------------|----------|
| Type Name                           | Type Reference                      | Module Identifier | Encoding Variation | Comments |
| TimeToTrigger                       | TimeToTrigger                       | Class-definitions |                    |          |
| TrafficVolumeEventPa<br>ram         | TrafficVolumeEventPa ram            | Class-definitions |                    |          |
| TrafficVolumeEventRe sults          | TrafficVolumeEventRe sults          | Class-definitions |                    |          |
| TrafficVolumeEventTy<br>pe          | TrafficVolumeEventTy pe             | Class-definitions |                    |          |
| TrafficVolumeMeasQua ntity          | TrafficVolumeMeasQua ntity          | Class-definitions |                    |          |
| TrafficVolumeMeasSys<br>Info        | TrafficVolumeMeasSys<br>Info        | Class-definitions |                    |          |
| TrafficVolumeMeasure dResults       | TrafficVolumeMeasure dResults       | Class-definitions |                    |          |
| TrafficVolumeMeasure dResultsList   | TrafficVolumeMeasure dResultsList   | Class-definitions |                    |          |
| TrafficVolumeMeasure ment           | TrafficVolumeMeasure ment           | Class-definitions |                    |          |
| TrafficVolumeMeasure mentObjectList | TrafficVolumeMeasure mentObjectList | Class-definitions |                    |          |
| TrafficVolumeReportC riteria        | TrafficVolumeReportC riteria        | Class-definitions |                    |          |
| TrafficVolumeReportC riteriaSysInfo | TrafficVolumeReportC riteriaSysInfo | Class-definitions |                    |          |
| TrafficVolumeReportin gCriteria     | TrafficVolumeReportin gCriteria     | Class-definitions |                    |          |
| TrafficVolumeReportin gQuantity     | TrafficVolumeReportin gQuantity     | Class-definitions |                    |          |
| TrafficVolumeThreshol<br>d          | TrafficVolumeThreshol d             | Class-definitions |                    |          |
| TransChCriteria                     | TransChCriteria                     | Class-definitions |                    |          |
| TransChCriteriaList                 | TransChCriteriaList                 | Class-definitions |                    |          |
| TransferMode                        | TransferMode                        | Class-definitions |                    |          |
| TransmittedPowerThre shold          | TransmittedPowerThre shold          | Class-definitions |                    |          |
| TriggeringCondition1                | TriggeringCondition1                | Class-definitions |                    |          |
| TriggeringCondition2                | TriggeringCondition2                | Class-definitions |                    |          |
| TX_InterruptionAfterT rigger        | TX-InterruptionAfterT rigger        | Class-definitions |                    |          |
| UDRE                                | UDRE                                | Class-definitions |                    |          |
| UE_6AB_Event                        | UE-6AB-Event                        | Class-definitions |                    |          |
| UE_6FG_Event                        | UE-6FG-Event                        | Class-definitions |                    |          |
| UE_AutonomousUpda<br>teMode         | UE-AutonomousUpda teMode            | Class-definitions |                    |          |
| UE_InternalEventPara<br>m           | UE-InternalEventPar<br>am           | Class-definitions |                    |          |
| UE_InternalEventPara<br>mList       | UE-InternalEventPar amList          | Class-definitions |                    |          |
| UE_InternalEventRes ults            | UE-InternalEventRes ults            | Class-definitions |                    |          |
| UE_InternalMeasQuan tity            | UE-InternalMeasQuan tity            | Class-definitions |                    |          |

| Continued from previous pa            | ASN.1 Type Definitions By Reference   |                   |                    |          |
|---------------------------------------|---------------------------------------|-------------------|--------------------|----------|
| Type Name                             | Type Reference                        | Module Identifier | Encoding Variation | Comments |
| UE_InternalMeasured Results           | UE-InternalMeasured<br>Results        | Class-definitions |                    |          |
| UE_InternalMeasured<br>Results_LCR_r4 | UE-InternalMeasured<br>Results-LCR-r4 | Class-definitions |                    |          |
| UE_InternalMeasurem ent               | UE-InternalMeasurem ent               | Class-definitions |                    |          |
| UE_InternalMeasurem ent_r4            | UE-InternalMeasurem ent-r4            | Class-definitions |                    |          |
| UE_InternalMeasurem entSysInfo        | UE-InternalMeasurem entSysInfo        | Class-definitions |                    |          |
| UE_InternalReportCri teria            | UE-InternalReportCri<br>teria         | Class-definitions |                    |          |
| UE_InternalReporting Criteria         | UE-InternalReporting<br>Criteria      | Class-definitions |                    |          |
| UE_InternalReporting Quantity         | UE-InternalReporting Quantity         | Class-definitions |                    |          |
| UE_InternalReporting Quantity_r4      | UE-InternalReporting Quantity-r4      | Class-definitions |                    |          |
| UE_MeasurementQua ntity               | UE-MeasurementQua ntity               | Class-definitions |                    |          |
| UE_RX_TX_ReportEn try                 | UE-RX-TX-ReportE<br>ntry              | Class-definitions |                    |          |
| UE_RX_TX_ReportEn tryList             | UE-RX-TX-ReportE<br>ntryList          | Class-definitions |                    |          |
| UE_RX_TX_TimeDiffe renceType1         | UE-RX-TX-TimeDiffe renceType1         | Class-definitions |                    |          |
| UE_RX_TX_TimeDiffe renceType2         | UE-RX-TX-TimeDiffe renceType2         | Class-definitions |                    |          |
| UE_RX_TX_TimeDiffe renceType2Info     | UE-RX-TX-TimeDiffe renceType2Info     | Class-definitions |                    |          |
| UE_RX_TX_TimeDiffe renceThreshold     | UE-RX-TX-TimeDiffe renceThreshold     | Class-definitions |                    |          |
| UE_TransmittedPower                   | UE-TransmittedPowe r                  | Class-definitions |                    |          |
| UE_TransmittedPower TDD_List          | UE-TransmittedPowe rTDD-List          | Class-definitions |                    |          |
| UL_TrCH_Identity                      | UL-TrCH-Identity                      | Class-definitions |                    |          |
| UE_Positioning_Accur acy              | UE-Positioning-Accu racy              | Class-definitions |                    |          |
| UE_Positioning_Ciph erParameters      | UE-Positioning-Ciph erParameters      | Class-definitions |                    |          |
| UE_Positioning_Error                  | UE-Positioning-Erro                   | Class-definitions |                    |          |
| UE_Positioning_Error Cause            | UE-Positioning-Erro rCause            | Class-definitions |                    |          |
| UE_Positioning_Even tParam            | UE-Positioning-Even tParam            | Class-definitions |                    |          |
| UE_Positioning_Even tParamList        | UE-Positioning-Even tParamList        | Class-definitions |                    |          |
| UE_Positioning_Even tSpecificInfo     | UE-Positioning-Even tSpecificInfo     | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference                        |  |                   |                    |          |
|--|--|-------------------|--------------------|----------|
| Type Name  | Type Reference                                       | Module Identifier | Encoding Variation | Comments |
| UE_Positioning_GPS _AcquisitionAssistance                  | UE-Positioning-GPS -AcquisitionAssistanc e           | Class-definitions |                    |          |
| UE_Positioning_GPS<br>_AdditionalAssistance<br>DataRequest | UE-Positioning-GPS -AdditionalAssistance DataRequest | Class-definitions |                    |          |
| UE_Positioning_GPS<br>_Almanac                             | UE-Positioning-GPS -Almanac                          | Class-definitions |                    |          |
| UE_Positioning_GPS<br>_AssistanceData                      | UE-Positioning-GPS -AssistanceData                   | Class-definitions |                    |          |
| UE_Positioning_GPS _DGPS_Corrections                       | UE-Positioning-GPS -DGPS-Corrections                 | Class-definitions |                    |          |
| UE_Positioning_GPS<br>_lonosphericModel                    | UE-Positioning-GPS -lonosphericModel                 | Class-definitions |                    |          |
| UE_Positioning_GPS _MeasurementResults                     | UE-Positioning-GPS -MeasurementResults               | Class-definitions |                    |          |
| UE_Positioning_GPS<br>_NavigationModel                     | UE-Positioning-GPS -NavigationModel                  | Class-definitions |                    |          |
| UE_Positioning_GPS _NavModelAddDataR                       | UE-Positioning-GPS -NavModelAddDataR                 | Class-definitions |                    |          |
| eq UE_Positioning_GPS                                      | UE-Positioning-GPS                                   | Class-definitions |                    |          |
| _ReferenceCellInfo UE_Positioning_GPS _ReferenceTime       | -ReferenceCellInfo UE-Positioning-GPS -ReferenceTime | Class-definitions |                    |          |
| UE_Positioning_GPS _UTC_Model                              | UE-Positioning-GPS -UTC-Model                        | Class-definitions |                    |          |
| UE_Positioning_IPDL _Parameters                            | UE-Positioning-IPDL -Parameters                      | Class-definitions |                    |          |
| UE_Positioning_IPDL _Parameters_r4                         | UE-Positioning-IPDL<br>-Parameters-r4                | Class-definitions |                    |          |
| UE_Positioning_IPDL<br>_Parameters_TDD_r4<br>_ext          | UE-Positioning-IPDL -Parameters-TDD-r4 -ext          | Class-definitions |                    |          |
| UE_Positioning_Meas uredResults                            | UE-Positioning-Meas uredResults                      | Class-definitions |                    |          |
| UE_Positioning_Meas uredResults_v390ext                    | UE-Positioning-Meas uredResults-v390ext              | Class-definitions |                    |          |
| UE_Positioning_Meas urement                                | UE-Positioning-Meas urement                          | Class-definitions |                    |          |
| UE_Positioning_Meas urement_v390ext                        | UE-Positioning-Meas urement-v390ext                  | Class-definitions |                    |          |
| UE_Positioning_Meas urement_r4                             | UE-Positioning-Meas urement-r4                       | Class-definitions |                    |          |
| UE_Positioning_Meas urementEventResults                    | UE-Positioning-Meas urementEventResults              | Class-definitions |                    |          |
| UE_Positioning_Meas urementInterval                        | UE-Positioning-Meas urementInterval                  | Class-definitions |                    |          |
| UE_Positioning_Meth odType                                 | UE-Positioning-Meth odType                           | Class-definitions |                    |          |
| UE_Positioning_OTD<br>OA_AssistanceData                    | UE-Positioning-OTD OA-AssistanceData                 | Class-definitions |                    |          |

| ASN.1 Type Definitions By Reference               |  |                   |                    |          |
|---|--|-------------------|--------------------|----------|
| Type Name   | Type Reference                                     | Module Identifier | Encoding Variation | Comments |
| UE_Positioning_OTD<br>OA_AssistanceData_r<br>4    | UE-Positioning-OTD<br>OA-AssistanceData-r<br>4     | Class-definitions |                    |          |
| UE_Positioning_OTD<br>OA_AssistanceData_r<br>4ext | UE-Positioning-OTD<br>OA-AssistanceData-r<br>4ext  | Class-definitions |                    |          |
| UE_Positioning_OTD<br>OA_AssistanceData_<br>UEB   | UE-Positioning-OTD<br>OA-AssistanceData-<br>UEB    | Class-definitions |                    |          |
| UE_Positioning_IPDL _Parameters_TDDList _r4_ext   | UE-Positioning-IPDL -Parameters-TDDList -r4-ext    | Class-definitions |                    |          |
| UE_Positioning_OTD OA_Measurement                 | UE-Positioning-OTD OA-Measurement                  | Class-definitions |                    |          |
| UE_Positioning_OTD<br>OA_Measurement_v3<br>90ext  | UE-Positioning-OTD<br>OA-Measurement-v3<br>90ext   | Class-definitions |                    |          |
| UE_Positioning_OTD<br>OA_NeighbourCellInfo        | UE-Positioning-OTD OA-NeighbourCellInf o           | Class-definitions |                    |          |
| UE_Positioning_OTD OA_NeighbourCellInfo _r4       | UE-Positioning-OTD OA-NeighbourCellInf o-r4        | Class-definitions |                    |          |
| UE_Positioning_OTD OA_NeighbourCellInfo _UEB      | UE-Positioning-OTD<br>OA-NeighbourCellInf<br>o-UEB | Class-definitions |                    |          |
| UE_Positioning_OTD OA_NeighbourCellList           | UE-Positioning-OTD OA-NeighbourCellList            | Class-definitions |                    |          |
| UE_Positioning_OTD OA_NeighbourCellList _r4       | UE-Positioning-OTD<br>OA-NeighbourCellList<br>-r4  | Class-definitions |                    |          |
| UE_Positioning_OTD OA_NeighbourCellList _UEB      | UE-Positioning-OTD OA-NeighbourCellList -UEB       | Class-definitions |                    |          |
| UE_Positioning_OTD OA_Quality                     | UE-Positioning-OTD OA-Quality                      | Class-definitions |                    |          |
| UE_Positioning_OTD OA_ReferenceCellInfo           | UE-Positioning-OTD OA-ReferenceCellInfo            | Class-definitions |                    |          |
| UE_Positioning_OTD OA_ReferenceCellInfo _r4       | UE-Positioning-OTD<br>OA-ReferenceCellInfo<br>-r4  | Class-definitions |                    |          |
| UE_Positioning_OTD OA_ReferenceCellInfo _UEB      | UE-Positioning-OTD OA-ReferenceCellInfo -UEB       | Class-definitions |                    |          |
| UE_Positioning_Positi onEstimateInfo              | UE-Positioning-Posit ionEstimateInfo               | Class-definitions |                    |          |
| UE_Positioning_Repo<br>rtCriteria                 | UE-Positioning-Repo<br>rtCriteria                  | Class-definitions |                    |          |
| UE_Positioning_Repo<br>rtingQuantity              | UE-Positioning-ReportingQuantity                   | Class-definitions |                    |          |
| UE_Positioning_Repo<br>rtingQuantity_v390ex<br>t  | UE-Positioning-Repo<br>rtingQuantity-v390ex<br>t   | Class-definitions |                    |          |
| UE_Positioning_Repo<br>rtingQuantity_r4           | UE-Positioning-ReportingQuantity-r4                | Class-definitions |                    |          |

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|------------------------------------|--|-------------------|--|--|--|--|--|
| Type Name                          | Type Name Type Reference Module Identifier Encoding Variation Comments |                   |  |  |  |  |  |
| UE_Positioning_Resp<br>onseTime    | UE-Positioning-Resp<br>onseTime  | Class-definitions |  |  |  |  |  |
| UTRA_CarrierRSSI                   | UTRA-CarrierRSSI   | Class-definitions |  |  |  |  |  |
| UTRAN_GPS_DriftRa<br>te            | UTRAN-GPS-DriftRa<br>te  | Class-definitions |  |  |  |  |  |
| UTRAN_GPSReferenc eTime            | UTRAN-GPSReferenc eTime  | Class-definitions |  |  |  |  |  |
| UTRAN_GPSReferenc eTimeResult      | UTRAN-GPSReferenc eTimeResult  | Class-definitions |  |  |  |  |  |
| VarianceOfRLC_Buffe rPayload       | VarianceOfRLC-Buffe rPayload   | Class-definitions |  |  |  |  |  |
| W                                  | W  | Class-definitions |  |  |  |  |  |
| BCC                                | BCC  | Class-definitions |  |  |  |  |  |
| BCCH_ModificationIn fo             | BCCH–ModificationIn fo   | Class-definitions |  |  |  |  |  |
| BCCH_ModificationTi<br>me          | BCCH–ModificationTi<br>me  | Class-definitions |  |  |  |  |  |
| BSIC                               | BSIC   | Class-definitions |  |  |  |  |  |
| CBS_DRX_Level1Info rmation         | CBS-DRX-Level1Inf ormation   | Class-definitions |  |  |  |  |  |
| CDMA2000_Message                   | CDMA2000-Message   | Class-definitions |  |  |  |  |  |
| CDMA2000_Message<br>List           | CDMA2000-Message<br>List   | Class-definitions |  |  |  |  |  |
| CDMA2000_UMTS_F<br>requency_List   | CDMA2000-UMTS-F<br>requency-List                                       | Class-definitions |  |  |  |  |  |
| CellValueTag                       | CellValueTag   | Class-definitions |  |  |  |  |  |
| ExpirationTimeFactor               | ExpirationTimeFactor   | Class-definitions |  |  |  |  |  |
| FDD_UMTS_Frequenc y_List           | FDD-UMTS-Frequen cy-List   | Class-definitions |  |  |  |  |  |
| FrequencyInfoCDMA2<br>000          | FrequencyInfoCDMA2 000   | Class-definitions |  |  |  |  |  |
| GERAN_SystemInfoBI ock             | GERAN-SystemInfoB lock   | Class-definitions |  |  |  |  |  |
| GERAN_SystemInfor mation           | GERAN–SystemInfor mation   | Class-definitions |  |  |  |  |  |
| GSM_BA_Range                       | GSM-BA-Range   | Class-definitions |  |  |  |  |  |
| GSM_BA_Range_List                  | GSM-BA-Range-List  | Class-definitions |  |  |  |  |  |
| GSM_Classmark2                     | GSM-Classmark2   | Class-definitions |  |  |  |  |  |
| GSM_Classmark3                     | GSM-Classmark3   | Class-definitions |  |  |  |  |  |
| GSM_MessageList                    | GSM-MessageList  | Class-definitions |  |  |  |  |  |
| GsmSecurityCapability              | GsmSecurityCapability  | Class-definitions |  |  |  |  |  |
| IdentificationOfReceiv edMessage   | IdentificationOfReceiv edMessage                                       | Class-definitions |  |  |  |  |  |
| InterRAT_ChangeFailu reCause       | InterRAT-ChangeFailu reCause   | Class-definitions |  |  |  |  |  |
| GERANIu_MessageLis<br>t            | GERANIu-MessageLis<br>t  | Class-definitions |  |  |  |  |  |
| GERANIu_RadioAcces sCapability     | GERANIu-RadioAcces sCapability   | Class-definitions |  |  |  |  |  |
| InterRAT_UE_RadioA ccessCapability | InterRAT-UE-RadioA ccessCapability                                     | Class-definitions |  |  |  |  |  |

|   | ASN.1 Type Definitions By Reference                                    |                   |  |  |  |  |  |
|---|--|-------------------|--|--|--|--|--|
| Type Name   | Type Name Type Reference Module Identifier Encoding Variation Comments |                   |  |  |  |  |  |
| InterRAT_UE_RadioA ccessCapabilityList            | InterRAT-UE-RadioA ccessCapabilityList                                 | Class-definitions |  |  |  |  |  |
| InterRAT_UE_RadioA<br>ccessCapability_v590e<br>xt | InterRAT-UE-RadioA<br>ccessCapability-v590<br>ext                      | Class-definitions |  |  |  |  |  |
| InterRAT_UE_Security Capability                   | InterRAT-UE-Securit yCapability  | Class-definitions |  |  |  |  |  |
| InterRAT_UE_Security CapList                      | InterRAT-UE-Securit yCapList   | Class-definitions |  |  |  |  |  |
| InterRAT_HO_Failure<br>Cause                      | InterRAT-HO-Failure<br>Cause   | Class-definitions |  |  |  |  |  |
| MasterInformationBlo<br>ck                        | MasterInformationBlo ck  | Class-definitions |  |  |  |  |  |
| MIB_ValueTag                                      | MIB-ValueTag   | Class-definitions |  |  |  |  |  |
| NCC   | NCC  | Class-definitions |  |  |  |  |  |
| PLMN_ValueTag                                     | PLMN-ValueTag  | Class-definitions |  |  |  |  |  |
| PredefinedConfiglden tityAndValueTag              | PredefinedConfiglden tityAndValueTag                                   | Class-definitions |  |  |  |  |  |
| ProtocolErrorInformat ion                         | ProtocolErrorInformat ion  | Class-definitions |  |  |  |  |  |
| ReceivedMessageType                               | ReceivedMessageType  | Class-definitions |  |  |  |  |  |
| Rplmn_Information                                 | Rplmn-Information  | Class-definitions |  |  |  |  |  |
| Rplmn_Information_r4                              | Rplmn–Information–r<br>4   | Class-definitions |  |  |  |  |  |
| SchedulingInformation                             | SchedulingInformation  | Class-definitions |  |  |  |  |  |
| SchedulingInformation SIB                         | SchedulingInformation SIB  | Class-definitions |  |  |  |  |  |
| SchedulingInformation SIBSb                       | SchedulingInformation SIBSb  | Class-definitions |  |  |  |  |  |
| SegCount  | SegCount   | Class-definitions |  |  |  |  |  |
| SegmentIndex                                      | SegmentIndex   | Class-definitions |  |  |  |  |  |
| SFN_Prime   | SFN-Prime  | Class-definitions |  |  |  |  |  |
| SIB_Data_fixed                                    | SIB-Data-fixed   | Class-definitions |  |  |  |  |  |
| SIB_Data_variable                                 | SIB-Data-variable  | Class-definitions |  |  |  |  |  |
| SIBOccurldentity                                  | SIBOccurldentity   | Class-definitions |  |  |  |  |  |
| SIBOccurrenceIdentity<br>AndValueTag              | SIBOccurrenceIdentity<br>AndValueTag                                   | Class-definitions |  |  |  |  |  |
| SIBOccurValueTag                                  | SIBOccurValueTag   | Class-definitions |  |  |  |  |  |
| SIB_ReferenceList                                 | SIB-ReferenceList  | Class-definitions |  |  |  |  |  |
| SIBSb_ReferenceList                               | SIBSb-ReferenceList  | Class-definitions |  |  |  |  |  |
| SIB_ReferenceListFA<br>CH                         | SIB-ReferenceListFA<br>CH  | Class-definitions |  |  |  |  |  |
| SIB_Type  | SIB-Type   | Class-definitions |  |  |  |  |  |
| SIB_TypeAndTag                                    | SIB-TypeAndTag   | Class-definitions |  |  |  |  |  |
| SIBSb_TypeAndTag                                  | SIBSb-TypeAndTag   | Class-definitions |  |  |  |  |  |
| SibOFF  | SibOFF   | Class-definitions |  |  |  |  |  |
| SibOFF_List                                       | SibOFF-List  | Class-definitions |  |  |  |  |  |
| SysInfoType1                                      | SysInfoType1   | Class-definitions |  |  |  |  |  |
| SysInfoType1_v3a0ex<br>t_IEs                      | SysInfoType1-v3a0ex<br>t-IEs   | Class-definitions |  |  |  |  |  |

| Continuea from previous pa    | ASN.1 Type Definitions By Reference |                   |                    |          |  |
|-------------------------------|-------------------------------------|-------------------|--------------------|----------|--|
| Type Name                     | Type Reference                      | Module Identifier | Encoding Variation | Comments |  |
| SysInfoType2                  | SysInfoType2                        | Class-definitions |                    |          |  |
| SysInfoType3                  | SysInfoType3                        | Class-definitions |                    |          |  |
| SysInfoType3_v4b0ex<br>t_IEs  | SysInfoType3-v4b0ex<br>t-IEs        | Class-definitions |                    |          |  |
| SysInfoType3_v590ex<br>t      | SysInfoType3-v590ex t               | Class-definitions |                    |          |  |
| SysInfoType4                  | SysInfoType4                        | Class-definitions |                    |          |  |
| SysInfoType4_v4b0ex<br>t_IEs  | SysInfoType4-v4b0ex t-IEs           | Class-definitions |                    |          |  |
| SysInfoType4_v590ex<br>t      | SysInfoType4-v590ex t               | Class-definitions |                    |          |  |
| SysInfoType4_v5b0ex<br>t_IEs  | SysInfoType4-v5b0ex t-IEs           | Class-definitions |                    |          |  |
| SysInfoType5                  | SysInfoType5                        | Class-definitions |                    |          |  |
| SysInfoType5_v4b0ex<br>t_IEs  | SysInfoType5-v4b0ex t-IEs           | Class-definitions |                    |          |  |
| SysInfoType5_v590ex<br>t_IEs  | SysInfoType5-v590ex<br>t-IEs        | Class-definitions |                    |          |  |
| SysInfoType6                  | SysInfoType6                        | Class-definitions |                    |          |  |
| SysInfoType6_v4b0ex<br>t_IEs  | SysInfoType6-v4b0ex t-IEs           | Class-definitions |                    |          |  |
| SysInfoType6_v590ex<br>t_IEs  | SysInfoType6-v590ex<br>t-IEs        | Class-definitions |                    |          |  |
| SysInfoType7                  | SysInfoType7                        | Class-definitions |                    |          |  |
| SysInfoType8                  | SysInfoType8                        | Class-definitions |                    |          |  |
| SysInfoType9                  | SysInfoType9                        | Class-definitions |                    |          |  |
| SysInfoType10                 | SysInfoType10                       | Class-definitions |                    |          |  |
| SysInfoType11                 | SysInfoType11                       | Class-definitions |                    |          |  |
| SysInfoType11_v4b0e<br>xt_IEs | SysInfoType11-v4b0e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType11_v590e<br>xt_IEs | SysInfoType11-v590e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType12                 | SysInfoType12                       | Class-definitions |                    |          |  |
| SysInfoType12_v4b0e<br>xt_IEs | SysInfoType12-v4b0e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType12_v590e<br>xt_IEs | SysInfoType12-v590e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType13                 | SysInfoType13                       | Class-definitions |                    |          |  |
| SysInfoType13_v3a0e<br>xt_IEs | SysInfoType13-v3a0e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType13_v4b0e<br>xt_IEs | SysInfoType13-v4b0e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType13_1               | SysInfoType13-1                     | Class-definitions |                    |          |  |
| SysInfoType13_2               | SysInfoType13-2                     | Class-definitions |                    |          |  |
| SysInfoType13_3               | SysInfoType13-3                     | Class-definitions |                    |          |  |
| SysInfoType13_4               | SysInfoType13-4                     | Class-definitions |                    |          |  |
| SysInfoType14                 | SysInfoType14                       | Class-definitions |                    |          |  |
| SysInfoType15                 | SysInfoType15                       | Class-definitions |                    |          |  |
| SysInfoType15_v4b0e<br>xt_IEs | SysInfoType15-v4b0e xt-IEs          | Class-definitions |                    |          |  |
| SysInfoType15_1               | SysInfoType15-1                     | Class-definitions |                    |          |  |

| ASN.1 Type Definitions By Reference |                                    |                   |                    |          |
|-------------------------------------|------------------------------------|-------------------|--------------------|----------|
| Type Name                           | Type Reference                     | Module Identifier | Encoding Variation | Comments |
| SysInfoType15_2                     | SysInfoType15-2                    | Class-definitions |                    |          |
| SysInfoType15_3                     | SysInfoType15-3                    | Class-definitions |                    |          |
| SysInfoType16                       | SysInfoType16                      | Class-definitions |                    |          |
| SysInfoType17                       | SysInfoType17                      | Class-definitions |                    |          |
| SysInfoType17_v4b0e xt_IEs          | SysInfoType17-v4b0e xt-IEs         | Class-definitions |                    |          |
| SysInfoType17_v590e<br>xt_IEs       | SysInfoType17-v590e xt-IEs         | Class-definitions |                    |          |
| SysInfoType18                       | SysInfoType18                      | Class-definitions |                    |          |
| SysInfoTypeSB1                      | SysInfoTypeSB1                     | Class-definitions |                    |          |
| SysInfoTypeSB2                      | SysInfoTypeSB2                     | Class-definitions |                    |          |
| TDD_UMTS_Frequenc y_List            | TDD-UMTS-Frequen cy-List           | Class-definitions |                    |          |
| ANSI_41_GlobalServi ceRedirectInfo  | ANSI-41-GlobalServi ceRedirectInfo | Class-definitions |                    |          |
| ANSI_41_PrivateNeig hbourListInfo   | ANSI-41-PrivateNeig hbourListInfo  | Class-definitions |                    |          |
| ANSI_41_RAND_Info rmation           | ANSI-41-RAND-Inf ormation          | Class-definitions |                    |          |
| ANSI_41_UserZonel D_Information     | ANSI-41-UserZonel D-Information    | Class-definitions |                    |          |
| ANSI_41_NAS_Para meter              | ANSI-41-NAS-Para<br>meter          | Class-definitions |                    |          |
| Min_P_REV                           | Min-P-REV                          | Class-definitions |                    |          |
| NAS_SystemInformati<br>onANSI_41    | NAS-SystemInformati<br>onANSI-41   | Class-definitions |                    |          |
| NID                                 | NID                                | Class-definitions |                    |          |
| P_REV                               | P-REV                              | Class-definitions |                    |          |
| SID                                 | SID                                | Class-definitions |                    |          |
| Detailed Comments :                 |                                    |                   |                    |          |

| Encoding Definitions |           |         |  |  |  |
|----------------------|-----------|---------|--|--|--|
| Encoding Rule Name   | Reference | Default | Comments   |  |  |
| PER_Unaligned        | X.691     |         | Packet encoding rules (X.691) unaligned and with adapted padding |  |  |
| Detailed Comments :  |           |         |  |  |  |

 $\textbf{Operation Name :} \ o\_IntToOct(p\_N:INTEGER; p\_L:INTEGER)$ 

Result Type : OCTETSTRING

Comments :

# Description

o\_IntToOct converts the INTEGER p\_N into OCTETSTRING with length =  $p_L$ .

for example:

o\_IntToOct(14,1) = '0E'O; o\_IntToOct(18,1) = '12'O; o\_IntToOct(18,2) = '0012'O.

Operation Name: o\_AuthRspChk(p\_AuthRsp: AuthRsp; p\_AuthRspExt; AuthRspExt; p\_K:BITSTRING; p\_RAND:

BITSTRING; p\_Ext: BOOLEAN)

Result Type : BOOLEAN

Comments :

### Description

Checks the input parameter p\_AuthRsp and p\_AuthRspExt, both received in an Authentication Response, according to the authentication algorithm defined in the following procedure.

The extension, p\_AuthRspExt, is optional. Its presence is indicated by p\_Ext.

Returns TRUE if the Authentication Response contained in parameters p\_AuthRsp and eventually p\_AuthRspExt is correct, FALSE otherwise.

The value of tcv\_AuthN indicates whether the AuthRspExt has been provided by the UE or not (n=31, or 31 < n < 128). See 3G TS 34.108 cl. 8.1.2.

If not the parameter p\_AuthRspExt is not to be used.

Algorithm (without the knowledge of tcv\_AuthN):

\_\_\_\_\_

if NOT p\_Ext EvaluateAuthRsp else EvaluateAuthRspAndAuthRspExt

### EvaluateAuthRsp:

\_\_\_\_\_\_

resultbitstring = o\_BitstringXOR(XRES, AuthRsp) if resultbitstring is all 0s then there is a match.

### EvaluateAuthRspAndAuthRspExt:

\_\_\_\_\_

XREShigh = o\_BitstringXtract(XRES, 32, 32, 0)

/\* XRES divides into 2 parts: the higher part of 32 bits related to AuthRsp and the lower part related to AuthRspExt \*/

/\* SourceLength of 32 is only to ensure usage of the procedure \*/

resultbitstring = o\_BitstringXOR(XREShigh, AuthRsp)

if resultbitstring is all 0s then there is a match for the first 32 bits: Evaluate AuthRspExt else Authentication failed.

### EvaluateAuthRspExt:

\_\_\_\_\_

/\* As AuthRespExt may not be octet aligned the last octet indicated in AuthRspExt is not used for checking \*/

```
if (AuthRspExt.iel = 1) then Authentication passed
```

```
/* there was only 1 possibly incomplete octet which is not used */ else
```

....

AuthRspExthigh = o\_BitstringXtract(AuthRspExt.authRsp, ((AuthRspExt.iel -1)\* 8), (AuthRspExt.iel -1)\* 8, 0)

/\* extract (AuthRspExt.iel -1)\* 8 bits starting from bit 0 \*/

XRESlow = o\_BitstringXtract(XRES, ((AuthRspExt.iel -1)\* 8 + 32), (AuthRspExt.iel -1)\* 8, 32)

/\* extract (AuthRspExt.iel -1)\* 8 bits starting from bit 32 \*/

resultbitstring = o\_BitstringXOR(XRESlow, AuthRspExthigh, (AuthRspExt.iel -1)\* 8)

if resultbitstring is all 0s then there is a match for the bits following the first 32 bits else Authentication failed

**Operation Name**: o\_BitstringConcat(p\_Str1, p\_Str2: BITSTRING; p\_Len1, p\_Len2: INTEGER)

Result Type : BITSTRING

Comments :

## Description

Performs the concatenation of 2 bitstrings of possibly different lengths. The bit significance is from left to right, ie the MSB is at the lefthand side.

Returns a resulting bitstring p\_Str1  $\parallel$  p\_Str2 of length p\_ Len1 + p\_Len.

Example

o\_BitstringConcat('010101'B,'11'B) produces '01010111'B of length 6 + 2 = 8..

**Detailed Comments:** 

# **Test Suite Operation Definition**

**Operation Name**: o\_BitstringXOR(p\_Str1, p\_Str2: BITSTRING; p\_Len: INTEGER)

Result Type : BITSTRING

Comments :

### Description

Performs an XOR operation using 2 bitstrings of the same length (p\_Len).

Returns a resulting Bitstring of length p\_Len.

Example

o\_BitstringXOR('0011'B, '0101'B, 4) produces '0110'B

Operation Name: o\_BitstringXtract(p\_Str: BITSTRING; p\_SrcLen, p\_TargetLen, p\_Offset: INTEGER)

Result Type : BITSTRING

Comments :

### Description

Performs the wrap around extract of a bitstring. The length of the string from

which extraction is to be made is specified in p\_SrcLen. The length of the bitstring to be extracted is indicated as p\_TargetLen, the offset in the original

string is indicated in p\_Offset.

The bit position 0 is at the left.

Returns a resulting bitstring of length p\_TargetLen.

### Examples:

o\_BitstringXtract('101010'B, 6, 2, 1) produces '01'B.

- o\_BitstringXtract('101010'B, 6, 4, 3) produces '0101'B, wrapping around.
- o\_BitstringXtract('111000'B, 6, 4, 5) produces '0111'B, wrapping around.

### **Detailed Comments:**

### **Test Suite Operation Definition**

**Operation Name:** o\_ConvertIMSI(p\_Imsi: HEXSTRING)

Result Type : IMSI\_GSM\_MAP

Comments : The input parameter 'imsi' is a BCD string (subset of HEXSTRING), the result is of type

IMSI\_GSM\_MAP.

### Description

The input parameter p\_Imsi is a BCD string (subset of HEXSTRING), the result is of type IMSI\_GSM\_MAP.

**Detailed Comments:** 

## **Test Suite Operation Definition**

**Operation Name:** o\_ConvertPTMSI(p\_PTMSI: OCTETSTRING)

Result Type : P\_TMSI\_GSM\_MAP

**Comments**: The input parameter 'PTMSI' is a OCTETSTRING, the result is of type TMSI\_GSM\_MAP.

## Description

The input parameter 'PTMSI' is a OCTETSTRING, the result is of type P\_TMSI\_GSM\_MAP.

**Operation Name:** o\_ConvertTMSI( p\_Tmsi: OCTETSTRING)

Result Type : TMSI\_GSM\_MAP

**Comments**: The input parameter 'tmsi' is a OCTETSTRING, the result is of type TMSI\_GSM\_MAP.

### Description

The input parameter p\_Tmsi is a OCTETSTRING, the result is of type TMSI\_GSM\_MAP.

**Detailed Comments:** 

# **Test Suite Operation Definition**

Operation Name: o\_ConvtPLMN(p\_MCC, p\_MNC: HEXSTRING)

Result Type : OCTETSTRING

Comments :

### Description

the functions of o\_ConvtPLMN are as following:

- 1. The least significant HEX of p\_MNC is removed from p\_MNC and inserted into p\_MCC in the position left to the third HEX to form a new p\_MCC of 4 HEXs, then swap the first HEX (left most, most significant Hex) with the second HEX of the new p\_MCC.
- 2. Swap the first Hex with the second HEX of the remaining part of p\_MNC and append it to the new p\_MCC formed in Step1 above.

For example:

- o\_ConvtPLMN('123'H, '456'H) = '216354'O
- o\_ConvtPLMN ('234'H, '01F'H) = '32F410'O

**Operation Name:** o\_GetN\_OctetsFromPRBS( p\_Start, p\_N: INTEGER )

Result Type : OCTETSTRING

Comments :

### Description

This operation returns N octets from a repeated pseudo random bit sequence, starting with octet position p\_Start. The PRBS is the 2047 bit pseudo random test pattern defined in ITU–T Recommendation 0.153 for measurements at 64 kbit/s and N x 64 kbit/s

o\_GetN\_OctetsFromPRBS( p\_Start, p\_N ) generates an OCTETSTRING containing p\_N octets starting from octet number p\_Start in the PRBS.

### Requirements

 $p_Start >= 0$ 

p\_N >= 1

#### Definition

Define the 2047 bit PRBS sequence b(i) as an m-sequence produced by using the following primitive (over GF(2)) generator polynomial of degree 11:

 $X^11 + X^9 + 1$ 

This sequence is defined recursively as:

$$b(i) = 1, i = 0,1,...,10$$
  
 $b(i) = b(i - 2) + b(i - 11) \mod 2, i = 11,16,...,2046$ 

The OCTETSTRING, o(j) generated by the present TSO is produced by extracting p\_N octets from the repeated sequence b(i) as follows:

$$o(j,k) = b( ( ( n_Start + j ) * 8 + k ) modulo 2047 )$$

where:

$$j = 0,1,..,p_N - 1$$

k = 0,1,...7

o(j,k) is the kth bit of the jth octet in o(j),

o(j,0) is the MSB of the jth octet in o(j),

o(j,7) is the LSB of the jth octet in o(j),

### Example results:

<code>o\_GetN\_OctetsFromPRBS(</code> 0, 25 ) and <code>o\_GetN\_OctetsFromPRBS(</code> 2047, 25 ) both return:

'FFE665A5C5CA3452085408ABEECE4B0B813FD337873F2CD1E2'O

<code>o\_GetN\_OctetsFromPRBS(</code> 255, 25 ) and <code>o\_GetN\_OctetsFromPRBS(</code> 255 + 2047, 25 ) both return

'01FFCCCB4B8B9468A410A81157DD9C9617027FA66F0E7E59A3'O

Operation Name: o\_GetPI (p\_Imsi: HEXSTRING; p\_Np: INTEGER)

Result Type : BITSTRING

**Comments**: The operation is used to calculate the PI (Page Indicator) from the given input parameters.

## Description

The PI is calculated as following:

PI = drx\_index mod np

The drx\_index is calculated as described hereafter:

drx\_index = (p\_lmsi / 8192))

This calculation is defined in TS 25.304 clause 8.3.

NOTE: the IMSI is passed as HEXSTRING, the relevant conversion shall be done.

**Detailed Comments:** 

## **Test Suite Operation Definition**

Operation Name: o\_HexToDigitsMCC(p\_BCDdigits: HEXSTRING)

Result Type : MCC
Comments :

### Description

The input parameter p\_BCDdigits shall be a BCD string (subset of HEXSTRING), the result is a SEQUENCE (SIZE(3)) OF digit (MCC).

NOTE: The length of p\_BCDdigits shall be 3. User shall take the responsibility of fulfilling this requirement.

for example:

o\_HexToDigitsMCC('111'H) = {1, 1, 1} o\_HexToDigitsMCC('123'H) = {1, 2, 3}.

**Operation Name:** o\_HexToDigitsMNC(p\_BCDdigits: HEXSTRING)

Result Type : MNC Comments :

## Description

The length of the input parameter p\_BCDdigits shall be 3 HEX DIGITS, the first two shall be BCDdigit (subset of HEXSTRING) the result is a SEQUENCE (SIZE(2..3)) OF Digit (MNC).

The function of this operation is:

- 1. the least significant HEX is removed if it is 'F' and the operation returns SEQUENCE (SIZE(2)) OF Digit.
- 2. the operation returns SEQUENCE (SIZE(3)) OF Digit if all 3 HEX digits in p\_BCDdigits are BCD Digit.

for example:

o\_HexToDigitsMNC('123'H) =  $\{1, 2, 3\}$ o\_HexToDigitsMNC('13F'H) =  $\{1, 3\}$ .

**Detailed Comments:** 

# **Test Suite Operation Definition**

**Operation Name:** o\_OctetstringConcat(p\_Str1, p\_Str2: OCTETSTRING)

Result Type : OCTETSTRING

Comments :

# Description

o\_OctetstringConcat Performs the concatenation of 2 octetstrings of possibly different lengths. The octet significance is from left to right, i.e. the MSB is at the lefthand side.

Returns a resulting octetstring p\_Str1 || p\_Str2 .

Example:

o\_OctetstringConcat('135'O, '9A38'O) = '1359A38'O.

Operation Name: o\_SIB\_PER\_Encoding(p\_SIB: SIB)

Result Type : BITSTRING

Comments : generate the unaligned PER codes without "Encoder added (0-7) bits padding" from the input system

information block

### Description

The function of the o\_SIB\_PER\_Encoding is as the follows:

it returns the unaligned PER encoding (BIT STRING) of the input system information block p\_SIB (without "Encoder added (1–7) bits padding"). The bits corresponding to the encoding of the CHOICE of the SIB type shall be removed.

```
Example:
for the following SIBType1 value:
  SysInfoType1 ::=
 cn_CommonGSM_MAP_NAS_SysInfo
                                      '0080'O.
 cn_DomainSysInfoList
                                     {{cn_DomainIdentity ps_domain,
                                                        gsm_MAP: '0000'O,
                                      cn_Type
                                      cn_DRX_CycleLengthCoeff p_CellInfo.dRX_CycleLength
                                      {cn_DomainIdentity cs_domain,
                                      cn_Type
                                                       gsm_MAP: o_OctetstringConcat(p_T3212,
o_IntToOct(p_ATTFlag, 1)),
                                      cn_DRX_CycleLengthCoeff p_CellInfo.dRX_CycleLength
                                      }
                                      },
 ue_ConnTimersAndConstants
                               t_301
                                      ms2000,
                               n_301 2,
                               t 302 ms4000,
                               n_302 3,
                               t_304 ms1000,
                               n_304 3,
                               t_305 m60,
                               t_307
                                      s50,
                               t_308 ms320,
                               t_309 8,
                               t_310 ms320,
                               n_310 5,
                               t_311 ms500,
                               t_312 5,
                               n_312 s200,
                               t_313 10,
                               n_313 s20,
                               t_314 s20,
                               t 315 s30,
                               n_315 s200,
                               t_316 s50,
                               t_317 s1800
 ue IdleTimersAndConstants
                                       t_300 ms400,
                                      n_300 7,
                                      t_312
                                             10,
                                      n_312 s200
 nonCriticalExtensions
                                      {}
```

The operation returns

Detailed Comments: 3GPP TS 25.331 clause 12.1

# **Test Suite Operation Definition**

Operation Name: o\_SIB\_Segmentation(p\_SIBBitString: BITSTRING)

Result Type : SegmentsOfSysInfoBlock

**Comments**: The returned result is a structured type.

### Description

The function of the o\_SIB\_Segmentation is as following:

- 1. If the p\_SIBBitString is less than or equal to 226 bits, the bit string is fit into one segment. If the bit string is less than 226 bits but more than 214 bits, the segment shall be padded to 226 bits long with padding bits set to '0'B.
- 2. If the input operand p\_SIBBitString is longer than 226 bits it is segmented from left to right into segments, each segment except the last one is 222 bits . The last segment may be 222 bits or shorter. If the length of last segment is greater than 214 bits pad it to 222 bits with padding bits set to '0'B.
  - 3. The number of segments is assigned to segCount field of the result.
  - 4. The first segment is assigned to seg1 field of the result, the second segment is assigned to the seg2 field of the result, the third segment is assigned to the seg3 field of the result, and so on till the last segment.

Operation Name: o\_SUFI\_Handler( p\_SUFI\_Params: SUFI\_Params; p\_SUFI\_String: HEXSTRING )

Result Type : ResAndSUFIs

**Comments**: "See TS-34.123-3 section 6.5.2.1 for the handling of SUFIs"

## Description

## **Parameters**

## p\_SUFI\_Params

This parameter contains the list of checking criteria to be applied by the TSO

### p SUFI String

This parameter contains the received string of SUFIs to be checked.

### Description

This TSO is used to check that the received string of SUFIs contained in p\_SUFI\_String. Checking criteria to be applied are contained in p\_SUFI\_Params.

.....

## Output

- the BOOLEAN result of the TSO:

TRUE if all checking and the filling of the SuperFields structure were successful;

FALSE otherwise; in this case the TSO shall produce sufficient output to allow problem analysis

-The filled-in SuperFields structure

|                                | Test Suite P | arameter Declarations |  |
|--------------------------------|--------------|-----------------------|--|
| Parameter Name                 | Туре         | PICS/PIXIT Ref        | Comments   |
| px_RLC_SDU_buffering           | BOOLEAN      | PIXIT Table 10        | TRUE=Support of RLC<br>SDUBuffering<br>FALSE=Support of RLC<br>SDU Discard<br>as defined in test case<br>7.2.3.13  |
| pc_AutomaticAttachSwitch<br>ON | BOOLEAN      | PICS, Table A         | Paramter is TRUE if UE supports automatic triggering of GMM Attach procedure when switched on  |
| pc_CS                          | BOOLEAN      | PICS, Table A.3/1     | Circuit Switched   |
| pc_MS_ClsmkA5_1                | B1           | PICS Table A.20/44    | default Algorithm A5/1<br>supported.<br>Default value: '0'B(i.e. A5/1<br>is supported)   |
| pc_MS_ClsmkA5_2                | B1           | PICS Table A.20/46    | default Algorithm A5/2<br>supported.<br>Default value: '0'B<br>(encryption algorithm A5/2<br>not available)  |
| pc_MS_ClsmkA5_3                | B1           | PICS Table A.20/47    | default Algorithm A5/3 supported. Default value: '0'B(encryption algorithm A5/3 not available)   |
| pc_MS_ClsmkA5_4                | B1           | PICS Table A.20/48    | default Algorithm A5/3 supported. Default value: '0'B(encryption algorithm A5/4 not available)   |
| pc_MS_ClsmkA5_5                | B1           | PICS Table A.20/49    | default Algorithm A5/3 supported. Default value: '0'B(encryption algorithm A5/5 not available)   |
| pc_MS_ClsmkA5_6                | B1           | PICS Table A.20/50    | default Algorithm A5/3 supported. Default value: '0'B(encryption algorithm A5/6 not available)   |
| pc_MS_ClsmkA5_7                | B1           | PICS Table A.20/51    | default Algorithm A5/7 supported. Default value: '0'B(encryption algorithm A5/7 not available)   |
| pc_PS                          | BOOLEAN      | PICS, Table A.3/2     | Packet Switched  |
| pc_SwitchOnOff                 | BOOLEAN      | PICS, Table A.20/35   | switch on/off supported  |
| pc_UEA1_Supp                   | BOOLEAN      | PICS, Table A.20/27   | Support of UMTS encryption algorithm UEA1  |
| pc_UMTS_GSM                    | BOOLEAN      | PICS, Table A.1/4     | To check if the UE supports both UMTS as well as GSM. If the variable is set as TRUE, means that both UMTS and GSM is supported. If the variable is set as FALSE, means that UE supports only UMTS |

|                      | Test Suite Parameter Declarations |                     |  |  |  |
|----------------------|-----------------------------------|---------------------|--|--|--|
| Parameter Name       | Туре                              | PICS/PIXIT Ref      | Comments   |  |  |
| pc_USIM_Rmv          | BOOLEAN                           | PICS, Table A.20/36 | USIM removable without power down supported  |  |  |
| px_AuthAMF           | BITSTRING                         | PIXIT Table B.1     | Authentication Management Field (16 bits). The value shall be different from '1111 1111 1111 111'B (AMFresynch). Default value: no default value can be proposed   |  |  |
| px_AuthK             | BITSTRING                         | PIXIT Table B.1     | Authentication Key (128 bits). Default value: '00000000000100000 0100000011000001110 0001000000  |  |  |
| px_AuthN             | INTEGER                           | PIXIT Table B.1     | value of n to initialize<br>tcv_AuthN (length of<br>extended response)<br>min 31, max 127 (TS 34.108<br>cl. 8.1.2).<br>Default value: 127  |  |  |
| px_AuthRAND          | BITSTRING                         | PIXIT Table B.1     | Random Challenge (128 bits). Default value: '01010101'B The value shall not be repeatable with 3 bits i.e. something like '001001001001001001'B not allowed.   |  |  |
| px_CN_DomainTested   | CN_DomainIdentity                 | PIXIT Table B.1     | CN domain to be tested. This parameter is used in test cases that handle both PS and CS domains. Default value: cs_domain  |  |  |
| px_CipherAlg         | B3                                | PIXIT Table B.1     | Cipher algorithm. Default value: (A5/1) '000'B   |  |  |
| px_CipheringOnOff    | BOOLEAN                           | PIXIT Table B.1     | Security mode – TRUE if ciphering is applicable. Default value: TRUE   |  |  |
| px_FDD_OperationBand | INTEGER                           | PIXIT Table B.1     | The operation band under test, as defined in 34.108 clause 5.1.1.  Value 1 means Band 1, 2 means Band 2, 3 means Band 3, 6 means Band 6.  Rest of the values are not defined. This pixit shall be set in synchronisation with the values that are being set to 6 other Pixits viz: px_UARFCN_D_High,px_U ARFCN_U_High, px_UARFCN_D_Mid,px_U ARFCN_L_Mid, px_UARFCN_D_Low, px_UARFCN_D_Low, px_UARFCN_U_Low |  |  |

| Test Suite Parameter Declarations |                       |                 |   |  |
|-----------------------------------|-----------------------|-----------------|---|--|
| Parameter Name                    | Туре                  | PICS/PIXIT Ref  | Comments  |  |
| px_FRESH                          | Fresh                 | PIXIT Table B.1 | FRESH. Default value: no default value can be proposed  |  |
| px_IMSI_Def                       | HEXSTRING             | PIXIT Table B.1 | default IMSI.<br>Default value:<br>'001010123456063'H   |  |
| px_PTMSI_Def                      | OCTETSTRING           | PIXIT Table B.1 | default PTMSI .<br>Default value: '12345678'O   |  |
| px_PTMSI_SigDef                   | OCTETSTRING           | PIXIT Table B.1 | default PTMSI signature (3 octets, 3GPP 24.008 / 10.5.5.8). Default value: 'AB1234'O  |  |
| px_PriScrmCode                    | PrimaryScramblingCode | PIXIT Table B.1 | Primary scrambling code. Default value: 100   |  |
| px_RAT                            | RatType               | PIXIT Table B.1 | This parameter is used to specify which radio access technology is being used for the current test execution. Valid values: fdd and tdd. Default value: fdd |  |
| px_SRNC_ld                        | SRNC_Identity         | PIXIT Table B.1 | SRNC Id.<br>Default value:<br>'0000000000001'B  |  |
| px_SRNTI                          | S_RNTI                | PIXIT Table B.1 | S RNTI.<br>Default value:<br>'000000000000000000001'B   |  |
| px_TCellA                         | Tcell                 | PIXIT Table B.1 | TCell value for cell A.<br>Default value: 0   |  |
| px_TCellB                         | Tcell                 | PIXIT Table B.1 | TCell value for cell B.<br>Default value: 512   |  |
| px_TCellC                         | Tcell                 | PIXIT Table B.1 | TCell value for cell C.<br>Default value: 1536  |  |
| px_TCellD                         | Tcell                 | PIXIT Table B.1 | TCell value for cell D.<br>Default value: 321   |  |
| px_TCellE                         | Tcell                 | PIXIT Table B.1 | TCell value for cell E.<br>Default value: 833   |  |
| px_TCellF                         | Tcell                 | PIXIT Table B.1 | TCell value for cell F.<br>Default value: 6577  |  |
| px_TCellG                         | Tcell                 | PIXIT Table B.1 | TCell value for cell G.<br>Default value: 7253  |  |
| px_TCellH                         | Tcell                 | PIXIT Table B.1 | TCell value for cell H.<br>Default value: 4351  |  |
| px_TMSI_Def                       | OCTETSTRING           | PIXIT Table B.1 | default TMSI.<br>Default value: '12345678'O   |  |
| px_UARFCN_D_High                  | INTEGER               | PIXIT Table B.1 | High Range downlink<br>UARFCN value.<br>Default value: 10837  |  |
| px_UARFCN_D_Low                   | INTEGER               | PIXIT Table B.1 | Low Range downlink<br>UARFCN value<br>Default value: 10563  |  |
| px_UARFCN_D_Mid                   | INTEGER               | PIXIT Table B.1 | Mid Range downlink<br>UARFCN value<br>Default value: 10700  |  |

|                      | Test Suite Parameter Declarations |                 |   |  |  |
|----------------------|-----------------------------------|-----------------|---|--|--|
| Parameter Name       | Туре                              | PICS/PIXIT Ref  | Comments  |  |  |
| px_UARFCN_U_High     | INTEGER                           | PIXIT Table B.1 | High Range uplink UARFCN value. This value shall be set based on the operation band supported. Default value: 9887  |  |  |
| px_UARFCN_U_Low      | INTEGER                           | PIXIT Table B.1 | Low Range uplink UARFCN value. This value shall be set based on the operation band supported.  Default value: 9613  |  |  |
| px_UARFCN_U_Mid      | INTEGER                           | PIXIT Table B.1 | Mid Range uplink UARFCN value. This value shall be set based on the operation band supported.  Default value: 9750  |  |  |
| px_UE_OpModeDef      | UE_OperationMode                  | PIXIT Table B.1 | Default UE operation mode (either opModeA or opModeC). (For most UEs thiscorresponds class—A or class—C, and can not be changed by the user). Default value: opModeA                                      |  |  |
| px_UL_ScramblingCode | UL_ScramblingCode                 | PIXIT Table B.1 | UL scrambling code value to be used by UE. Default value: 0   |  |  |
| px_UTRAN_GERAN       | UTRAN_GERAN                       | PIXIT Table B.1 | This parameter is used to specify for which region the system information blocks are broadcast in the test execution. Valid values: "UTRAN only" and "UTRAN and GERAN".  Default value: "UTRAN and GERAN" |  |  |
| Detailed Comments :  |                                   |                 |   |  |  |

|                       | Test Suite Constant Declarations |             |   |  |  |
|-----------------------|----------------------------------|-------------|---|--|--|
| Constant Name         | Туре                             | Value       | Comments  |  |  |
| tsc_AM_15_PayloadSize | INTEGER                          | 166         | AMD PDU payload size in octets for tests using 15 bit length indicators.  |  |  |
|                       |                                  |             | Reference 3G TS 34.108, clause 6.11.4   |  |  |
| tsc_AM_7_PayloadSize  | INTEGER                          | 16          | AMD PDU payload size in octets for tests using 7 bit length indicators.   |  |  |
|                       |                                  |             | Reference 3G TS 34.108, clause 6.11.3   |  |  |
| tsc_AM_SN_Size        | INTEGER                          | 12          | The number of bits used to represent an AM sequence number. Ref 3G TS 25.322 clause 9.2.2.3.  |  |  |
| tsc_DC_AMDPDU         | DC_Field                         | '1'B        | Value for D/C field within an AMD PDU. Ref 3G TS 25.322 clause 9.2.2.1  |  |  |
| tsc_DefaultCellId     | INTEGER                          | tsc_CellA   | The default cell identifier for all RLC testing.  |  |  |
| tsc_CS_DefaultRAB_Id  | BITSTRING                        | '00000001'B | This constant is used as the default value for the GSM MAP RAB identity for   |  |  |
|                       |                                  |             | CS RLC testing.   |  |  |
| tsc_PS_DefaultRAB_Id  | BITSTRING                        | '00000101'B | This constant is used as the default value for the GSM MAP RAB identity for   |  |  |
|                       |                                  |             | PS RLC testing.   |  |  |
| tsc_CS_DefaultRB_Id   | RB_Identity                      | 10          | The default radio bearer identifier for CS RLC testing.   |  |  |
| tsc_PS_DefaultRB_Id   | RB_Identity                      | 20          | The default radio bearer identifier for PS RLC testing.   |  |  |
| tsc_E_Data            | ExtBit                           | '0'B        | Value for ExtBit in AMD and UMD PDU when the next field is data. Ref 3G TS 25.322 clause 9.2.2.5  |  |  |
| tsc_E_LI_AndE_Bit     | ExtBit                           | '1'B        | Value for ExtBit in AMD and UMD PDU when the next field is Length Indicator and E bit. Ref 3G TS 25.322 clause 9.2.2.5                              |  |  |
| tsc_HE_Data           | HeaderExt                        | '00'B       | Value for headerExtField in<br>AMD PDU when the<br>succeeding octet contains<br>data. Ref 3G TS 25.322<br>clause 9.2.2.7                            |  |  |
| tsc_HE_LI_AndE_Bit    | HeaderExt                        | '01'B       | Value for headerExtField in<br>AMD PDU when the<br>succeeding octet contains a<br>length indicator and E bit.<br>Ref 3G TS 25.322 clause<br>9.2.2.7 |  |  |

|                          | Test Suite Constant Declarations |       |  |  |  |
|--------------------------|----------------------------------|-------|--|--|--|
| Constant Name            | Туре                             | Value | Comments   |  |  |
| tsc_LI15_Padding         | INTEGER                          | 32767 | Value for 15 bit length indicator when the rest of the RLC PDU contains padding ('111111111111111111111111111111111111   |  |  |
| tsc_LI15_PiggyBackStatus | INTEGER                          | 32766 | Value for 15 bit length indicator when the rest of the RLC PDU contains a piggybacked status PDU ('1111111111111110'B). An INTEGER so that it can be passed to LI constraints. Ref 3G TS 25.322 clause 9.2.2.8                                       |  |  |
| tsc_LI7_FirstOctetOfSDU  | INTEGER                          | 124   | Value for 7 bit length indicator indicating that The first data octet in this RLC PDU is the first octet of a RLC SDU for UM. Reserved for AM. ( '1111100'B). An INTEGER so that it can be passed to LI constraints. Ref 3G TS 25.322 clause 9.2.2.8 |  |  |
| tsc_LI7_Padding          | INTEGER                          | 127   | Value for 7 bit length indicator when the rest of the RLC PDU contains padding ('11111111'B). An INTEGER so that it can be passed to LI constraints. Ref 3G TS 25.322 clause 9.2.2.8   |  |  |
| tsc_LI7_PiggyBackStatus  | INTEGER                          | 126   | Value for 7 bit length indicator when the rest of the RLC PDU contains a piggybacked status PDU ('1111110'B). An INTEGER so that it can be passed to LI constraints. Ref 3G TS 25.322 clause 9.2.2.8   |  |  |
| tsc_LI7_PreviousPDU_Full | INTEGER                          | 0     | Value for 7 bit length indicator when the previous RLC PDU was exactly filled with the last segment of a RLC SDU ('0000000'B). An INTEGER so that it can be passed to LI constraints. Ref 3G TS 25.322 clause 9.2.2.8                                |  |  |
| tsc_LI7_Reserved2        | INTEGER                          | 125   | Reserved value for 7 bit<br>length indicator<br>('1111101'B). An INTEGER<br>so that it can be passed to<br>LI constraints. Ref 3G TS<br>25.322 clause 9.2.2.8  |  |  |

| Comments  The number of bits used to represent the length field in a LIST super field.  The number of bits used to represent the Li field in a LIST SUFI. Ref 3G TS 25.322 clause 9.2.2.11.4  Maximum octet position for accessing PRBS. |
|--|
| represent the length field in a LIST super field.  The number of bits used to represent the Li field in a LIST SUFI. Ref 3G TS 25.322 clause 9.2.2.11.4  Maximum octet position for  |
| represent the Li field in a<br>LIST SUFI. Ref 3G TS<br>25.322 clause 9.2.2.11.4<br>Maximum octet position for  |
| Maximum octet position for accessing PRBS.   |
| I .  |
| In tc_7_2_3_12 4096 PDUs of up to 40 octets are sent   |
| (4.096 * 40 = 163. 840)  |
| Value for PDU type field<br>within a RESET PDU. Ref<br>3G TS 25.322 clause 9.2.2.2   |
| Value for PDU type field<br>within a RESET ACK PDU.<br>Ref 3G TS 25.322 clause<br>9.2.2.2  |
| Value for PollingBit field<br>within an AMDPDU<br>indicating that a status<br>report is not requested. Ref<br>3G TS 25.322 clause 9.2.2.4  |
| Value for PollingBit field within an AMDPDU indicating that a status report is requested. Ref 3G TS 25.322 clause 9.2.2.4  |
| Value for SUFI type field within a SUFI in a STATUS PDU. Ref 9.2.2.11  |
| Value for SUFI type field within a SUFI in a STATUS PDU. Ref 9.2.2.11  |
| Value for SUFI type field within a SUFI in a STATUS PDU. Ref 9.2.2.11  |
| Value for SUFI type field within a SUFI in a STATUS PDU. Ref 9.2.2.11  |
| Transmission time interval in milliseconds for the transport channel supporting the RB used for RLC testing. This is used for calculations based on the TTI.   |
|  |

| Test Suite Constant Declarations |                       |   |  |
|----------------------------------|-----------------------|---|--|
| Constant Name                    | Туре                  | Value                                     | Comments   |
| tsc_TestDataSize7Or15            | INTEGER               | 10  | SDU size used for tests for selection of 7 or 15 bit length indicators. The same data size is used in both directions, and independant of the LI size being used.      |
|                                  |                       |   | The value must be less than (PayloadSize with 7 bit LIs – 2). This is to ensure that the entire SDU will always fit in a single PDU, whether 7 or 15 bit LIs are used. |
| tsc_UM_15_PayloadSize            | INTEGER               | 167                                       | UMD PDU payload size in octets for tests using 15 bit length indicators.   |
|                                  |                       |   | Reference 3G TS 34.108, clause 6.11.2  |
| tsc_UM_7_PayloadSize             | INTEGER               | 41  | UMD PDU payload size in octets for tests using 7 bit length indicators.  |
|                                  |                       |   | Reference 3G TS 34.108, clause 6.11.1  |
| tsc_UM_SN_Size                   | INTEGER               | 7   | The number of bits used to represent an UM sequence number. Ref 3G TS 25.322 clause 9.2.2.3  |
| tsc_SUFI_MRW_ACK                 | SUFI_Type             | '0111'B                                   | Value for SUFI type field<br>within a SUFI in a STATUS<br>PDU. Ref 9.2.2.11  |
| maxLogCHperTrCH                  | INTEGER               | 15  | This constant is from MCI<br>ASP proposal, but there is<br>no value for it in the<br>proposal. value 8 is for<br>temporary use   |
| maxdlTrCH                        | INTEGER               | 16  |  |
| maxulTrCH                        | INTEGER               | 16  |  |
| tsc_AICH1                        | INTEGER               | 7   | Physical channel identity for AICH channel associated with first PRACH   |
| tsc_AICH1_ChC                    | ChannelisationCode256 | 3   | Channelization code for tsc_AICH1  |
| tsc_AICH2                        | INTEGER               | 12  | Physical channel identity for AICH2 channel associated with second PRACH   |
| tsc_AT_ResultOK                  | IA5String             | " <cr><lf>OK<cr><lf>"</lf></cr></lf></cr> |  |
| tsc_AttOn                        | INTEGER               | 1   | Attach flag value On   |
| tsc_AttenuationServingCell       | INTEGER               | 0   | Value of attenuator to be used when setting a Serving Cell.  |
| tsc_BCCH1                        | INTEGER               | 1   | Logical channel identity for logical channel BCCH mapped on BCH  |

| Test Suite Constant Declarations |                   |                                      |  |
|----------------------------------|-------------------|--------------------------------------|--|
| Constant Name                    | Туре              | Value                                | Comments   |
| tsc_BCCH6                        | INTEGER           | 6                                    | Logical channel identity for logical channel BCCH mapped on FACH                 |
| tsc_BCH1                         | INTEGER           | 11                                   | Identity for transport channel BCH   |
| tsc_CRNTI                        | C_RNTI            | '000000000000001'B                   | C RNTI. Default value: '0000 0000 0000 0001'B                                    |
| tsc_CS_Domain                    | CN_DomainIdentity | cs_domain                            |  |
| tsc_CellA                        | INTEGER           | 0                                    | Identity of Cell A   |
| tsc_CellB                        | INTEGER           | 1                                    | Identity of Cell B   |
| tsc_CellC                        | INTEGER           | 2                                    | Identity of Cell C   |
| tsc_CellD                        | INTEGER           | 3                                    | Identity of Cell D   |
| tsc_CellDedicated                | INTEGER           | <b>-1</b>                            | Identity of the dedicated cell.  |
| tsc_CellE                        | INTEGER           | 4                                    | Identity of Cell E   |
| tsc_CellF                        | INTEGER           | 5                                    | Identity of Cell F   |
| tsc_CellG                        | INTEGER           | 6                                    | Identity of Cell G   |
| tsc_CellH                        | INTEGER           | 7                                    | Identity of Cell H   |
| tsc_CellIdCellA                  | BITSTRING         | '0000000000000000000000<br>0000000'B |  |
| tsc_CellIdCellB                  | BITSTRING         | '000000000000000000000<br>0000001'B  |  |
| tsc_CellIdCellC                  | BITSTRING         | '000000000000000000000<br>0000010'B  |  |
| tsc_CellIdCellD                  | BITSTRING         | '000000000000000000000<br>0000011'B  |  |
| tsc_CellIdCellE                  | BITSTRING         | '000000000000000000000<br>0000100'B  |  |
| tsc_CellIdCellF                  | BITSTRING         | '000000000000000000000<br>0000101'B  |  |
| tsc_CellIdCellG                  | BITSTRING         | '000000000000000000000<br>0000110'B  |  |
| tsc_CellIdCellH                  | BITSTRING         | '000000000000000000000<br>0000111'B  |  |
| tsc_DC_ControlPDU                | DC_Field          | '0'B                                 | Value for D/C field within a STATUS PDU. Ref 3G TS 25.322 clause 9.2.2.1         |
| tsc_DL_CCCH5                     | INTEGER           | 5                                    | Logical channel identity for logical channel CCCH mapped on FACH (downlink)      |
| tsc_DL_DCCH1                     | INTEGER           | 1                                    | Logical channel identity for DCCH1 (downlink), used by signalling radio bearer 1 |
| tsc_DL_DCCH2                     | INTEGER           | 2                                    | Logical channel identity for DCCH2 (downlink), used by signalling radio bearer 2 |
| tsc_DL_DCCH3                     | INTEGER           | 3                                    | Logical channel identity for DCCH3 (downlink), used by signalling radio bearer 3 |
| tsc_DL_DCCH4                     | INTEGER           | 4                                    | Logical channel identity for DCCH4 (downlink), used by signalling radio bearer 4 |

| Test Suite Constant Declarations |                         |              |   |
|----------------------------------|-------------------------|--------------|---|
| Constant Name                    | Туре                    | Value        | Comments  |
| tsc_DL_DCH1                      | INTEGER                 | 6            | identity for transport<br>channel DCH1 (downlink),<br>in AMR speech this<br>transport channel is used for<br>RAB subflow#1      |
| tsc_DL_DCH5                      | INTEGER                 | 10           | identity for transport<br>channel DCH5 (downlink),<br>in most case this transport<br>channel is used for signalling<br>bearers. |
| tsc_DL_DPCH1                     | INTEGER                 | 26           | physical channel identity for DPCH1(downlink)   |
| tsc_DL_DPCH1_2ndScrC             | SecondaryScramblingCode | 1            | secondary scrambling code for DL DPCH1  |
| tsc_DL_DPCH1_ChC_64k<br>_CS      | SF512_AndCodeNumber     | sf32:0       | Channelization code for tsc_DL_DPCH1 for a 64 kbps CS configuration   |
| tsc_DL_DPCH1_ChC_64k<br>_PS      | SF512_AndCodeNumber     | sf32:0       | Channelization code for tsc_DL_DPCH1 for a 64 kbps PS configuration   |
| tsc_DL_DPCH1_ChC_RLC             | SF512_AndCodeNumber     | sf32:0       | Channelization code for tsc_DL_DPCH1 for RLC configurations   |
| tsc_DL_DPCH1_ChC_RLC<br>_7_BitLl | SF512_AndCodeNumber     | sf128:0      | Channelization code for<br>tsc_DL_DPCH1 for a 8<br>kbps CS/PS configuration<br>used for 7 Bit LI RLC test<br>cases              |
| tsc_DL_DPCH1_ChC_SRB             | SF512_AndCodeNumber     | sf128:0      | Channelization code for tsc_DL_DPCH1 for a SRB connection with a RAB established  |
| tsc_DL_DPCH1_SFP_RLC             | SF512_AndPilot          | sfd32 : NULL | Spreading factor and pilot bits for tsc_DL_DPCH1 for RLC configurations   |
| tsc_DL_DPCH1_SFP_RLC<br>_7BitLl  | SF512_AndPilot          | sfd128 : pb4 | Spreading factor and pilot bits for tsc_DL_DPCH1 for RLC 7 bit LI configurations  |
| tsc_DL_DPCH1_SFP_SRB             | SF512_AndPilot          | sfd128:pb4   | Spreading factor and pilot bits for tsc_DL_DPCH1 for an SRB connection with a RAB established                                   |
| tsc_DL_DTCH1                     | INTEGER                 | 7            | Logical channel identity for DTCH1 (downlink)   |
| tsc_DL_PDSCH1                    | INTEGER                 | 16           | Physical channel identity for primaryPDSCH channel  |
| tsc_DL_TxPower_DPCH              | DL_TxPower              | -5           | down link transmit power<br>level of DPCH used for CS<br>RABS.<br>Default value is -5 dBm                                       |
| tsc_DL_TxPower_DPCH_6<br>4k      | DL_TxPower              | -2           | down link transmit power<br>level of DPCH used 64<br>KBPS PS RAB's<br>Default value is-2 dBm                                    |

| Test Suite Constant Declarations  |                                |  |   |
|-----------------------------------|--------------------------------|--|---|
| Constant Name                     | Туре                           | Value                                  | Comments  |
| tsc_DPCCH_PowerOffset             | DPCCH_PowerOffset              | -40                                    | DPCCH power offset value.   |
|                                   |                                |  | Defalut value: -80 (IE Value *2),   |
| tsc_DPCH_PowerOffsetPIL<br>OT     | INTEGER                        | 0                                      | Power offsett value of PILOT on DPCH  |
| tsc_DPCH_PowerOffsetTF<br>CI      | INTEGER                        | 0                                      | Power offsett value of TFCI on DPCH   |
| tsc_DPCH_PowerOffsetTP<br>C       | INTEGER                        | 0                                      | Power offsett value of TPC on DPCH  |
| tsc_DefaultDPCH_OffsetVa<br>lue   | DefaultDPCH_OffsetValueF<br>DD | 459                                    | Default DPCH offset value. Actual value DefaultDPCH-OffsetValueF DD = IE value * 512 Default value : 459                                      |
| tsc_DelayAfterRRC_ConnR<br>el     | INTEGER                        | 1000                                   | Delay before sending after receiving RRC CONNECTION RELEASE complete in AM Mode (value in ms), so as to allow SS RLC layer to send ACK to UE. |
| tsc_DelayBeforeRRC_Conn<br>Rel    | INTEGER                        | 1000                                   | Delay before sending RRC<br>CONNECTION RELEASE<br>(value in ms)   |
| tsc_FACH1                         | INTEGER                        | 13                                     | transport channel identity for FACH   |
| tsc_FACH2                         | INTEGER                        | 14                                     | transport channel identity for second FACH when it is connected to a secondary CCPCH together with PCH (transport channel identity = 14)      |
| tsc_GMM_PD                        | ProtocolDiscriminator          | '1000'B                                | GMM protocol discriminator 3GPP 24.008 clause 10.4  |
| tsc_GainFactorBetaC_Belo<br>w64k  | INTEGER                        | 11                                     | Gain factor Beta C value to be used for RAB UL below 64kbps   |
| tsc_GainFactorBetaC_Highe<br>r64k | INTEGER                        | 9                                      | Gain factor Beta C value to be used for RAB UL higher than 64kbps   |
| tsc_GainFactorBetaD               | INTEGER                        | 15                                     |   |
| tsc_IntegrProtAlgCap              | B16                            | '0000000000000010'B                    | Integrity Protection Algorithm Capability   |
| tsc_KeySeqDef                     | KeySeq                         | '111'B                                 | default Key Sequence.<br>Default value: '111'B  |
| tsc_LAC_Def                       | OCTETSTRING                    | '0001'O                                |   |
| tsc_MCC_Def                       | HEXSTRING                      | '001'H                                 |   |
| tsc_MNC_Def                       | HEXSTRING                      | '01F'H                                 |   |
| tsc_MSN                           | INTEGER                        | 0                                      |   |
| tsc_MaxAllowPwr                   | MaxAllowedUL_TX_Power          | 33                                     |   |
| tsc_MessAuthCode                  | BITSTRING                      | '0000000000000000000000000000000000000 |   |
| tsc_Mui                           | INTEGER                        | 0                                      |   |
| tsc_N300                          | INTEGER                        | 3                                      |   |

|                       | Test Suite Constant Declarations  |                      |  |  |
|-----------------------|-----------------------------------|----------------------|--|--|
| Constant Name         | Туре                              | Value                | Comments   |  |
| tsc_NMO_I             | OCTETSTRING                       | '00'O                | Network Mode of Operation<br>I (3GPP 24.008 /<br>10.5.1.12.3)  |  |
| tsc_NMO_II            | OCTETSTRING                       | '01'O                | Network Mode of Operation<br>II (3GPP 24.008 /<br>10.5.1.12.3)   |  |
| tsc_Now               | INTEGER                           | 512                  | To indicate the system information change starts immediately.  |  |
| tsc_PCCH1             | INTEGER                           | 1                    | Logical channel identity for logical channel PCCH  |  |
| tsc_PCH1              | INTEGER                           | 12                   | identity for transport channel PCH1  |  |
| tsc_PDU_TypeStatus    | CtrlPDU_Type                      | '000'B               | Value for PDU type field<br>within a STATUS PDU. Ref<br>3G TS 25.322 clause 9.2.2.2  |  |
| tsc_PICH1             | INTEGER                           | 6                    | Physical channel identity for PICH channel associated with first secondary CCPCH   |  |
| tsc_PICH1_ChC         | ChannelisationCode256             | 2                    | Channelization code for tsc_PICH1  |  |
| tsc_PICH2             | INTEGER                           | 11                   | Physical channel identity for PICH2 channel associated with second secondary CCPCH   |  |
| tsc_PRACH1            | INTEGER                           | 8                    | Physical channel identity for first PRACH channel  |  |
| tsc_PRACH1_SF         | SF_PRACH                          | sfpr64               | Channelization code for UL<br>DPDCH for PRACH1   |  |
| tsc_PRACH1_ScrC       | PreambleScramblingCodeWo rdNumber | 0                    | Scrambling code for preamble of PRACH1   |  |
| tsc_PRACH1_Signatures | AvailableSignatures               | '00000000111111111'B | available signatures for PRACH. (from 34.108 cl. 6.1 (SIB5))   |  |
| tsc_PRACH2            | INTEGER                           | 9                    | Physical channel identity for second PRACH channel   |  |
| tsc_PS_Domain         | CN_DomainIdentity                 | ps_domain            |  |  |
| tsc_P_CCPCH           | INTEGER                           | 4                    | Physical channel identity for primary CCPCH channel  |  |
| tsc_P_CPICH           | INTEGER                           | 0                    | Physical channel identity for primary CPICH channel  |  |
| tsc_P_SCH             | INTEGER                           | 1                    | Physical channel identity for primary SCH channel  |  |
| tsc_PowerAICH         | AICH_PowerOffset                  | <b>-</b> 5           | relative transmission power<br>level of AICH. The power<br>level is specified relatively to<br>power leve of CPICH in<br>terms of AICH_Ec.<br>Default is -5 dBm/3.84MHz  |  |
| tsc_PowerPICH         | PICH_PowerOffset                  | <b>-</b> 5           | relative transmission power<br>level of PICH. The power<br>level is specified relatively to<br>power level of CPICH in<br>terms of PICH_Ec.<br>Default is -5 dBm/3.84MHz |  |

|                  | Test Suite Constant Declarations |       |  |  |
|------------------|----------------------------------|-------|--|--|
| Constant Name    | Туре                             | Value | Comments   |  |
| tsc_PowerpCCPCH  | DL_TxPower                       | -2    | transmission power level of primary CCPCH relative to CPICH. Default is -2 dBm.  |  |
| tsc_PowerpCPICH  | DL_TxPower_PCPICH                | -60   | transmission power level of primary CPICH. The power level is specified in terms of CPICH_Ec. Default is -60 dBm.  |  |
| tsc_PowerpSCH    | DL_TxPower                       | -5    | transmission power level of primary SCH relative to CPICH. Default is -5 dBm.  |  |
| tsc_PowersCCPCH1 | DL_TxPower                       | -2    | transmission power level of<br>secondary CCPCH1 relative<br>to CPICH.<br>Default is -2 dBm   |  |
| tsc_PowersSCH    | DL_TxPower                       | -5    | transmission power level of<br>secondary SCH relative to<br>CPICH.<br>Default is –5 dBm  |  |
| tsc_PuncLimit    | PuncturingLimit                  | pl1   | puncturing limit for PRACH.<br>default value is 1.<br>Default value: PI1   |  |
| tsc_RACH1        | INTEGER                          | 15    | transport channel identity for RACH  |  |
| tsc_RAC_Def      | OCTETSTRING                      | '05'O | Routing Area Code, 1 octet,<br>3GPP 24.008 clause<br>10.5.1.12.3   |  |
| tsc_RB0          | INTEGER                          | 0     | signalling radio bearer on TM<br>+ CCCH  |  |
| tsc_RB1          | INTEGER                          | 1     | sibnalling radio bearer on UM + DCCH   |  |
| tsc_RB10         | INTEGER                          | 10    | radio access bearer identity,<br>in AMR speech this RB is<br>RAB subflow#1, in other<br>cases this is a radio access<br>bearer                                   |  |
| tsc_RB11         | INTEGER                          | 11    | radio access bearer identity,<br>in AMR speech this RB is<br>RAB subflow#2, in some<br>other cases this is the<br>signalling radio bearer for<br>TM + BCCH_FACH. |  |
| tsc_RB12         | INTEGER                          | 12    | radio access bearer, in AMR speech this RB is RAB subflow#3, in some other cases this is the bearer for TM PCCH  |  |
| tsc_RB13         | INTEGER                          | 13    | radio access bearer, in AMR<br>speech this RB is RAB<br>subflow#3, in some other<br>cases this is the bearer for<br>TM PCCH                                      |  |
| tsc_RB2          | INTEGER                          | 2     | signalling radio bearer on<br>AM + DCCH  |  |

Continued from previous page

| Test Suite Constant Declarations |                |            |  |
|----------------------------------|----------------|------------|--|
| Constant Name                    | Туре           | Value      | Comments   |
| tsc_RB20                         | INTEGER        | 20         | radio access bearer for PS<br>RAB  |
| tsc_RB21                         | INTEGER        | 21         | radio access bearer for PS<br>RAB  |
| tsc_RB22                         | INTEGER        | 22         | Second AM radio access bearer for PS   |
| tsc_RB24                         | INTEGER        | 24         | Second AM radio access bearer for PS   |
| tsc_RB25                         | INTEGER        | 25         | PS Radio Bearer associated with a DTCH on HS-DSCH  |
| tsc_RB29                         | INTEGER        | 29         | RB Id for Radio bearer that carries the 2nd CCCH in the DL   |
| tsc_RB3                          | INTEGER        | 3          | signalling radio bearer on<br>AM + DCCH for high<br>priority NAS_DT  |
| tsc_RB30                         | INTEGER        | 30         | radio access bearer for CBS<br>RAB   |
| tsc_RB31                         | INTEGER        | 31         |  |
| tsc_RB4                          | INTEGER        | 4          | signalling radio bearer on<br>AM + DCCH for low priority<br>NAS_DT   |
| tsc_RB_2ndCCCH                   | INTEGER        | <b>-</b> 5 | uplink signalling radio bearer on TM + second CCCH   |
| tsc_RB_2ndPCCH                   | INTEGER        | _4         | radio bearer idenity for<br>bearer on TM + PCCH +<br>PCH used for sending<br>paging message when there<br>is no RAB subflows for<br>speech.  |
| tsc_RB_AM_15_RLC                 | SS_RB_Identity | -13        | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate an AM RLC entity using 15 bit length indicators. The RB identity can be used by the SS decoder to determine which RLC mode is being simulated. |
|                                  |                |            | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.   |

| Test Suite Constant Declarations |                |            |   |
|----------------------------------|----------------|------------|---|
| Constant Name                    | Туре           | Value      | Comments  |
| tsc_RB_AM_7_RLC                  | SS_RB_Identity | -12        | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate an AM RLC entity using 7 bit length indicators. The RB identity can be used by the SS decoder to determine which RLC mode is being simulated.   |
|                                  |                |            | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.  |
| tsc_RB_BCCH                      | INTEGER        | -1         | radio bearer idenity for<br>bearer on TM + BCCH +<br>BCH used for broadcasting<br>system information blocks   |
| tsc_RB_BCCH_FACH                 | INTEGER        | -3         | signalling radio bearer on TM<br>+ BCCH + FACH +<br>sCCPCH1   |
| tsc_RB_BCCH_FACH_RAB             | INTEGER        | -19        | RB Id for Radio bearer that carries the 2nd BCCH  |
| tsc_RB_CCCH_FACH_MA<br>C         | SS_RB_Identity | -18        | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate the CCCH mapped to FACH. The RB identity can be used by the SS decoder to determine which MAC configuration is being simulated.                 |
|                                  |                |            | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.  |
| tsc_RB_DCCH_DCH_MAC              | SS_RB_Identity | <b>-15</b> | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate the high priority NAS SRB mapped to DCH. The RB identity can be used by the SS decoder to determine which MAC configuration is being simulated. |
|                                  |                |            | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.  |

|                          | Test Suite Constant Declarations |           |  |  |
|--------------------------|----------------------------------|-----------|--|--|
| Constant Name            | Туре                             | Value     | Comments   |  |
| tsc_RB_DCCH_FACH_MA<br>C | SS_RB_Identity                   | -14       | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate the high priority NAS SRB mapped to FACH. The RB identity can be used by the SS decoder to determine which MAC configuration is being simulated. |  |
|                          |                                  |           | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.   |  |
| tsc_RB_PCCH              | INTEGER                          | -2        | radio bearer idenity for<br>bearer on TM + PCCH +<br>PCH used for sending<br>paging message when there<br>is no RAB subflows for<br>speech.  |  |
| tsc_RB_PCCH2             | INTEGER                          | <b>-4</b> |  |  |
| tsc_RB_UM_15_RLC         | SS_RB_Identity                   | _11       | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate a UM RLC entity using 15 bit length indicators. The RB identity can be used by the SS decoder to determine which RLC mode is being simulated.    |  |
|                          |                                  |           | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.   |  |
| tsc_RB_UM_7_RLC          | SS_RB_Identity                   | -10       | RB Identity used for configuration of a TM RLC entity in the SS that will be used to simulate a UM RLC entity using 7 bit length indicators. The RB identity can be used by the SS decoder to determine which RLC mode is being simulated.     |  |
|                          |                                  |           | A negative value is used to indicate that the SS configuration is not identical to the UE configuration.   |  |
| tsc_SFN_OffsetA          | INTEGER                          | 0         | SFN offset values for cell A Default value: 0  |  |
| tsc_SFN_OffsetB          | INTEGER                          | 0         | SFN offset values for cell B Default value: 0  |  |
| tsc_SFN_OffsetC          | INTEGER                          | 0         | SFN offset values for cell C   |  |
|                          |                                  |           | Default value: 0   |  |

|                          | Test Suite Constant Declarations |         |   |  |
|--------------------------|----------------------------------|---------|---|--|
| Constant Name            | Туре                             | Value   | Comments  |  |
| tsc_SFN_OffsetD          | INTEGER                          | 3000    | SFN offset values for cell D  |  |
|                          |                                  |         | Default value: 3000   |  |
| tsc_SFN_OffsetE          | INTEGER                          | 3000    | SFN offset values for cell E<br>Default value: 3000   |  |
| tsc_SFN_OffsetF          | INTEGER                          | 678     | SFN offset values for cell F<br>Default value: 678  |  |
| tsc_SFN_OffsetG          | INTEGER                          | 1356    | SFN offset values for cell G  |  |
|                          |                                  |         | Default value: 1356   |  |
| tsc_SFN_OffsetH          | INTEGER                          | 2034    | SFN offset values for cell H  |  |
|                          |                                  |         | Default value: 2034   |  |
| tsc_SMPD                 | ProtocolDiscriminator            | '1010'B | SM protocol discriminator   |  |
| tsc_SS_CS_Domain         | SS_CN_DomainIdentity             | 0       | Citi protecti diceriminate  |  |
| tsc_SS_PS_Domain         | SS_CN_DomainIdentity             | 1       |   |  |
| tsc_S_CCPCH1             | INTEGER                          | 5       | Physical channel identity for   |  |
| ISC_3_COFON              | INTEGER                          | 5       | first secondary CCPCH channel   |  |
| tsc_S_CCPCH1_ChC         | SF256_AndCodeNumber              | sf64:1  | Channelization code for tsc_S_CCPCH1  |  |
| tsc_S_CCPCH2             | INTEGER                          | 10      | Physical channel identity for second secondary CCPCH channel  |  |
| tsc_S_CCPCH3             | INTEGER                          | 13      | Physical channel identity forThird secondary CCPCH channel  |  |
| tsc_S_CCPCH_2ndScrCod e  | INTEGER                          | 0       | Secondary scrambling code for S–CCPCH channels  |  |
| tsc_S_SCH                | INTEGER                          | 2       | Physical channel identity for secondary SCH channel   |  |
| tsc_SlotFormatsCCPCH1    | SCCPCHSlotFormat                 | 8       | channelization code for<br>secondary CCPCH1 when<br>spreading factor = 64,<br>default value is 8.<br>Default value: 8 |  |
| tsc_T3212_Def            | OCTETSTRING                      | '1E'O   | infinite  |  |
| tsc_TPC_CombinationIndex | TPC_CombinationIndex             | 0       |   |  |
| tsc_TT01                 | INTEGER                          | 5000    | TC protocol Timer: 5 sec (shall be 2,5 sec)   |  |
| tsc_TWaitSysInfo         | INTEGER                          | 5000    | Wait for the completion of<br>SysInfo sending   |  |
| tsc_TimingsCCPCH1        | INTEGER                          | 0       | timing offset for secondary<br>CCPCH1. default is 0.<br>Default value: 0  |  |
| tsc_TpcStepSize          | TPC_StepSizeFDD                  | 0       | Value 0 corresponds to 1 dB   |  |
| tsc_UE_TestLoopMode1     | UE_TestLoopMode                  | '00'O   | mode 1 with DCCH dummy transmission disabled  |  |
| tsc_UL_CCCH5             | INTEGER                          | 5       | Logical channel identity for logical channel CCCH mapped RACH (uplink)  |  |
| tsc_UL_DCCH1             | INTEGER                          | 1       | Logical channel identity for DCCH1 (uplink), used by signalling radio bearer 1  |  |

| Test Suite Constant Declarations |                             |                     |   |
|----------------------------------|-----------------------------|---------------------|---|
| Constant Name                    | Туре                        | Value               | Comments  |
| tsc_UL_DCCH2                     | INTEGER                     | 2                   | Logical channel identity for DCCH2 (uplink), used by signalling radio bearer 2  |
| tsc_UL_DCCH3                     | INTEGER                     | 3                   | Logical channel identity for DCCH3 (uplink), used by signalling radio bearer 3  |
| tsc_UL_DCCH4                     | INTEGER                     | 4                   | Logical channel identity for DCCH4 (uplink), used by signalling radio bearer 4  |
| tsc_UL_DCH1                      | INTEGER                     | 1                   | identity for transport<br>channel DCH1 (uplink), in<br>AMR speech this transport<br>channel is used for RAB<br>subflow#1      |
| tsc_UL_DCH5                      | INTEGER                     | 5                   | identity for transport<br>channel DCH5 (uplink), in<br>most case this transport<br>channel is used for signalling<br>bearers. |
| tsc_UL_DPCH1                     | INTEGER                     | 20                  | physical channel identity for DPCH1(uplink)   |
| tsc_UL_DPDCH_SF_RLC              | SpreadingFactor             | sf16                | Channelization code for UL<br>DPDCH for RLC<br>configurations   |
| tsc_UL_DPDCH_SF_RLC_<br>7BitLl   | SpreadingFactor             | sf64                | Channelization code for UL<br>DPDCH for 7 Bit LI RLC<br>configurations  |
| tsc_UL_DPDCH_SF_SRB              | SpreadingFactor             | sf64                | Channelization code for UL<br>DPDCH for an SRB<br>connection with a RAB<br>established  |
| tsc_UL_DTCH1                     | INTEGER                     | 7                   | Logical channel identity for DTCH1 (uplink)   |
| tsc_UL_MAC_Prt1                  | MAC_LogicalChannelPriorit y | 1                   |   |
| tsc_UL_MAC_Prt2                  | MAC_LogicalChannelPriorit y | 2                   |   |
| tsc_UL_MAC_Prt3                  | MAC_LogicalChannelPriorit y | 3                   |   |
| tsc_UL_MAC_Prt4                  | MAC_LogicalChannelPriorit y | 4                   |   |
| tsc_URA_IdCellA                  | BITSTRING                   | '00000000000001'B   |   |
| tsc_URA_IdCellB                  | BITSTRING                   | '00000000000001'B   |   |
| tsc_URA_IdCellC                  | BITSTRING                   | '000000000000010'B  |   |
| tsc_URA_IdCellD                  | BITSTRING                   | '000000000000010'B  |   |
| tsc_URA_ldCellE                  | BITSTRING                   | '00000000000011'B   |   |
| tsc_URA_IdCellF                  | BITSTRING                   | '00000000000011'B   |   |
| tsc_URA_IdCellG                  | BITSTRING                   | '0000000000000100'B |   |
| tsc_URA_IdCellH                  | BITSTRING                   | '0000000000000100'B |   |
| tsc_USIM_NeedRmv                 | BOOLEAN                     | TRUE                | Removal of USIM is needed in a test case (USIM is not always inserted)  |
| tsc_WaitBeforePaging             | INTEGER                     | 5000                | Waiting time before PAGING (ms)   |

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| Test Suite Constant Declarations |         |       |  |
|----------------------------------|---------|-------|--|
| Constant Name                    | Туре    | Value | Comments                               |
| tsc_sCCPCH_PowerOffset<br>PILOT  | INTEGER | 6     | Power offsett value of PILOT on sCCPCH |
| tsc_sCCPCH_PowerOffset<br>TFCI   | INTEGER | 6     | Power offsett value of TFCI on sCCPCH  |
| Detailed Comments :              |         |       |  |

|                         | Test Suite Constant Declarations By Reference |                         |                   |          |  |
|-------------------------|---|-------------------------|-------------------|----------|--|
| Constant Name           | Туре  | Value Reference         | Module Identifier | Comments |  |
| hiPDSCHidentities       | INTEGER                                       | hiPDSCHidentities       | Class-definitions |          |  |
| hiPUSCHidentities       | INTEGER                                       | hiPUSCHidentities       | Class-definitions |          |  |
| hiRM                    | INTEGER                                       | hiRM                    | Class-definitions |          |  |
| maxAC                   | INTEGER                                       | maxAC                   | Class-definitions |          |  |
| maxAdditionalMeas       | INTEGER                                       | maxAdditionalMeas       | Class-definitions |          |  |
| maxASC                  | INTEGER                                       | maxASC                  | Class-definitions |          |  |
| maxASCmap               | INTEGER                                       | maxASCmap               | Class-definitions |          |  |
| maxASCpersist           | INTEGER                                       | maxASCpersist           | Class-definitions |          |  |
| maxCCTrCH               | INTEGER                                       | maxCCTrCH               | Class-definitions |          |  |
| maxCellMeas             | INTEGER                                       | maxCellMeas             | Class-definitions |          |  |
| maxCellMeas_1           | INTEGER                                       | maxCellMeas-1           | Class-definitions |          |  |
| maxCNdomains            | INTEGER                                       | maxCNdomains            | Class-definitions |          |  |
| maxCPCHsets             | INTEGER                                       | maxCPCHsets             | Class-definitions |          |  |
| maxDPCH_DLchan          | INTEGER                                       | maxDPCH-DLchan          | Class-definitions |          |  |
| maxDPDCH_UL             | INTEGER                                       | maxDPDCH-UL             | Class-definitions |          |  |
| maxDRACclasses          | INTEGER                                       | maxDRACclasses          | Class-definitions |          |  |
| maxFACHPCH              | INTEGER                                       | maxFACHPCH              | Class-definitions |          |  |
| maxFreq                 | INTEGER                                       | maxFreq                 | Class-definitions |          |  |
| maxFreqBandsFDD         | INTEGER                                       | maxFreqBandsFDD         | Class-definitions |          |  |
| maxFreqBandsTDD         | INTEGER                                       | maxFreqBandsTDD         | Class-definitions |          |  |
| maxFreqBandsGSM         | INTEGER                                       | maxFreqBandsGSM         | Class-definitions |          |  |
| maxGERAN_SI             | INTEGER                                       | maxGERAN-SI             | Class-definitions |          |  |
| maxHProcesses           | INTEGER                                       | maxHProcesses           | Class-definitions |          |  |
| maxHSSCCHs              | INTEGER                                       | maxHSSCCHs              | Class-definitions |          |  |
| maxInterSysMessages     | INTEGER                                       | maxInterSysMessages     | Class-definitions |          |  |
| maxLoCHperRLC           | INTEGER                                       | maxLoCHperRLC           | Class-definitions |          |  |
| maxMAC_d_PDUsize<br>s   | INTEGER                                       | maxMAC-d-PDUsize s      | Class-definitions |          |  |
| maxMeasEvent            | INTEGER                                       | maxMeasEvent            | Class-definitions |          |  |
| maxMeasIntervals        | INTEGER                                       | maxMeasIntervals        | Class-definitions |          |  |
| maxMeasParEvent         | INTEGER                                       | maxMeasParEvent         | Class-definitions |          |  |
| maxNumCDMA2000F<br>reqs | INTEGER                                       | maxNumCDMA2000F<br>reqs | Class-definitions |          |  |
| maxNumGSMFreqRan<br>ges | INTEGER                                       | maxNumGSMFreqRan<br>ges | Class-definitions |          |  |
| maxNumFDDFreqs          | INTEGER                                       | maxNumFDDFreqs          | Class-definitions |          |  |
| maxNumTDDFreqs          | INTEGER                                       | maxNumTDDFreqs          | Class-definitions |          |  |
| maxOtherRAT             | INTEGER                                       | maxOtherRAT             | Class-definitions |          |  |
| maxOtherRAT_16          | INTEGER                                       | maxOtherRAT-16          | Class-definitions |          |  |
| maxPage1                | INTEGER                                       | maxPage1                | Class-definitions |          |  |
| maxPCPCH_APsig          | INTEGER                                       | maxPCPCH-APsig          | Class-definitions |          |  |
| maxPCPCH_APsubC<br>h    | INTEGER                                       | maxPCPCH-APsubC<br>h    | Class-definitions |          |  |
| maxPCPCH_CDsig          | INTEGER                                       | maxPCPCH-CDsig          | Class-definitions |          |  |
| maxPCPCH_CDsubC<br>h    | INTEGER                                       | maxPCPCH-CDsubC         | Class-definitions |          |  |
| maxPCPCH_SF             | INTEGER                                       | maxPCPCH-SF             | Class-definitions |          |  |
| maxPCPCHs               | INTEGER                                       | maxPCPCHs               | Class-definitions |          |  |
| maxPDCPAlgoType         | INTEGER                                       | maxPDCPAlgoType         | Class-definitions |          |  |

| Test Suite Constant Declarations By Reference |         |                            |                   |          |
|---|---------|----------------------------|-------------------|----------|
| Constant Name                                 | Туре    | Value Reference            | Module Identifier | Comments |
| maxPDSCH                                      | INTEGER | maxPDSCH                   | Class-definitions |          |
| maxPDSCH_TFClgro ups                          | INTEGER | maxPDSCH-TFClgro ups       | Class-definitions |          |
| maxPRACH                                      | INTEGER | maxPRACH                   | Class-definitions |          |
| maxPRACH_FPACH                                | INTEGER | maxPRACH-FPACH             | Class-definitions |          |
| maxPUSCH                                      | INTEGER | maxPUSCH                   | Class-definitions |          |
| maxQueuelDs                                   | INTEGER | maxQueueIDs                | Class-definitions |          |
| maxRABsetup                                   | INTEGER | maxRABsetup                | Class-definitions |          |
| maxRAT  | INTEGER | maxRAT                     | Class-definitions |          |
| maxRB   | INTEGER | maxRB                      | Class-definitions |          |
| maxRBallRABs                                  | INTEGER | maxRBallRABs               | Class-definitions |          |
| maxRBMuxOptions                               | INTEGER | maxRBMuxOptions            | Class-definitions |          |
| maxRBperRAB                                   | INTEGER | maxRBperRAB                | Class-definitions |          |
| maxReportedGSMCell s                          | INTEGER | maxReportedGSMCell s       | Class-definitions |          |
| maxRL   | INTEGER | maxRL                      | Class-definitions |          |
| maxRL_1                                       | INTEGER | maxRL-1                    | Class-definitions |          |
| maxROHC_PacketSiz es_r4                       | INTEGER | maxROHC-PacketSiz<br>es-r4 | Class-definitions |          |
| maxROHC_Profile_r4                            | INTEGER | maxROHC-Profile-r4         | Class-definitions |          |
| maxSat  | INTEGER | maxSat                     | Class-definitions |          |
| maxSCCPCH                                     | INTEGER | maxSCCPCH                  | Class-definitions |          |
| maxSIB  | INTEGER | maxSIB                     | Class-definitions |          |
| maxSIB_FACH                                   | INTEGER | maxSIB-FACH                | Class-definitions |          |
| maxSIBperMsg                                  | INTEGER | maxSIBperMsg               | Class-definitions |          |
| maxSRBsetup                                   | INTEGER | maxSRBsetup                | Class-definitions |          |
| maxSystemCapability                           | INTEGER | maxSystemCapability        | Class-definitions |          |
| maxTF   | INTEGER | maxTF                      | Class-definitions |          |
| maxTF_CPCH                                    | INTEGER | maxTF-CPCH                 | Class-definitions |          |
| maxTFC  | INTEGER | maxTFC                     | Class-definitions |          |
| maxTFCsub                                     | INTEGER | maxTFCsub                  | Class-definitions |          |
| maxTFCI_2_Combs                               | INTEGER | maxTFCI-2-Combs            | Class-definitions |          |
| maxTGPS                                       | INTEGER | maxTGPS                    | Class-definitions |          |
| maxTrCH                                       | INTEGER | maxTrCH                    | Class-definitions |          |
| maxTrCHpreconf                                | INTEGER | maxTrCHpreconf             | Class-definitions |          |
| maxTS   | INTEGER | maxTS                      | Class-definitions |          |
| maxTS_1                                       | INTEGER | maxTS-1                    | Class-definitions |          |
| maxTS_2                                       | INTEGER | maxTS-2                    | Class-definitions |          |
| maxTS_LCR                                     | INTEGER | maxTS-LCR                  | Class-definitions |          |
| maxTS_LCR_1                                   | INTEGER | maxTS-LCR-1                | Class-definitions |          |
| maxURA  | INTEGER | maxURA                     | Class-definitions |          |
| maxURNTI_Group                                | INTEGER | maxURNTI-Group             | Class-definitions |          |
| Detailed Comments :                           |         |                            |                   |          |

| Test Suite Variable Declarations |                     |  |   |  |  |
|----------------------------------|---------------------|--|---|--|--|
| Variable Name                    | Туре                | Value                                  | Comments  |  |  |
| tsv_AuthSQN                      | BITSTRING           | '0000000000000000000000000000000000000 | 48 bits (TS 33.102 cl. 6.3.7,<br>TS 34.108 cl. 8.1.2)<br>used and updated whenever<br>an authentication is<br>performed |  |  |
| Detailed Comments :              | Detailed Comments : |  |   |  |  |

| Test Case Variable Declarations |               |                               |  |  |
|---------------------------------|---------------|-------------------------------|--|--|
| Variable Name                   | Туре          | Value                         | Comments   |  |
| tcv_AM_SDU_DataPart1            | AM_Data       | "O                            | This variable is used to store the first part of the data of an AM SDU   |  |
| tcv_AM_SDU_DataPart2            | AM_Data       | "O                            | This variable is used to store the second part of the data of an AM SDU  |  |
| tcv_AMD_PDU                     | AMD_PDU       | c_AMD_Default                 | This variable is used to store the next AMD PDU to be transmitted or received.   |  |
| tcv_AMD_SeqNum                  | BITSTRING     | '00000000000000000'B          | To hold a temporary AMD sequnce number value.  |  |
| tcv_AM_RxData                   | AM_DataStruct | c_AM_DataStruct( OMIT, FALSE) | This variable is used to store the data part of the next AMD payload unit to be  |  |
|                                 |               |                               | received when 7 or 15 bit length indicators are used. Generally this data  |  |
|                                 |               |                               | is created via a call to o_GetN_OctetsFromPRBS.  |  |
| tcv_AM_TxData                   | AM_DataStruct | c_AM_DataStruct( OMIT, FALSE) | This variable is used to store the data part of the next AMD payload unit to be  |  |
|                                 |               | ,                             | transmitted when 7 or 15 bit<br>length indicators are used.<br>Generally this data   |  |
|                                 |               |                               | is created via a call to o_GetN_OctetsFromPRBS.  |  |
| tcv_AM_VRH                      | INTEGER       | 0                             | The sequence number of the highest expected PU. This state variable is set equal to SN+1 only when a new PDU is received with VR(MR)>SN>=VR(H). Ref 3G TS 25.322 clause 9.4 (Rx) b |  |
| tcv_AM_VRR                      | INTEGER       | 0                             | AM receive state variable VR(R). This variable is used to store the sequence   |  |
|                                 |               |                               | number of the next<br>in–sequence PDU expected<br>to be received. Ref 3G TS<br>25.322<br>clause 9.4 (Rx) a   |  |
| tcv_AM_VTS                      | INTEGER       | 0                             | AM send state variable VT(S). This variable is used to store the SN of the next  |  |
|                                 |               |                               | AM PDU to be transmitted.<br>Ref 3G TS 25.322 clause 9.4<br>(Tx) a.  |  |
| tcv_CheckNextUplinkSN_Is<br>0   | BOOLEAN       | FALSE                         | This variable is used as a flag<br>to indicate that the SN of<br>the next uplink PDU   |  |
|                                 |               |                               | is expected to be 0.   |  |

| Test Case Variable Declarations |         |       |   |  |
|---------------------------------|---------|-------|---|--|
| Variable Name                   | Туре    | Value | Comments  |  |
| tcv_CheckDataPart2              | BOOLEAN | FALSE | This variable is used as a flag to indicate that the Part2 of the data of an AM SDU is to be compared to the data in the next receievd PDU. |  |
| tcv_DefaultRB_TTI               | INTEGER | 20    | This variable is used to store<br>the TTI for the default radio<br>bearer. This value   |  |
|                                 |         |       | is used for operations such as 'ensure that the UE does not transmit any  |  |
|                                 |         |       | further PDUs for 2*N*TTI<br>ms.<br>See TS 34.108 cl. 6.11   |  |
| tcv_FirstPollRx                 | BOOLEAN | FALSE | This variable is used as a flag to indicate if the first PDU with it's poll bit set to tsc_P_Poll has been received.                        |  |
|                                 |         |       | FALSE Indicates that the first PDU with it's poll bit has not been received   |  |
|                                 |         |       | TRUE Indicates that at least one PDU has been received with it's poll bit set.  |  |
| tcv_InvalidTimeout              | BOOLEAN | FALSE | Used to indicate whether a timeout is in the expected period or not.  |  |
| tcv_NumHalfOctetsPadding        | INTEGER | 0     | This variable is used as a temporary variable for padding size calculations.  |  |
|                                 |         |       | Note that padding is specified in terms of half octets for two reasons:   |  |
|                                 |         |       | Padding is generated using the predefined INT_TO_HEX operation, because there is no predefined INT_TO_OCT operation.                        |  |
|                                 |         |       | 2. The length of STATUS PDUs may be a multiple of 4 bits, and therefore octet   |  |
|                                 |         |       | alignment is not guaranteed.  |  |
| tcv_NumMRWsRx                   | INTEGER | 0     | This variable is used to count the number of MRW SUFIs that have been received.   |  |

|                     | Test Case Variable Declarations |       |   |  |  |
|---------------------|---------------------------------|-------|---|--|--|
| Variable Name       | Туре                            | Value | Comments  |  |  |
| tcv_NumPDUsReceived | INTEGER                         | 0     | This variable is used to support interleaving of received AMD Data and STATUS PDUs. This variable is incremented each time a PDU containing the expected data is received.  |  |  |
| tcv_NumPDUsRx       | INTEGER                         | 0     | This variable is used to count the number of PDUs that have been received.  |  |  |
| tcv_NumPDUsTx       | INTEGER                         | 0     | This variable is used to count the number of PDUs that have been transmitted.   |  |  |
| tcv_NumPollsRx      | INTEGER                         | 0     | This variable is used to count the number of PDUs that have been received with  |  |  |
|                     |                                 |       | their poll bit set.   |  |  |
| tcv_NumResetsRx     | INTEGER                         | 0     | This variable is used to count the number of RESET PDUs that have been received   |  |  |
| tcv_NumSDUsTx       | INTEGER                         | 0     | This variable is used to count the number of SDUs that have been transmitted.   |  |  |
| tcv_NumSDUsTxAndRx  | INTEGER                         | 0     | This variable is used within test cases that have a 1 to 1 correspondance between downlink and uplink SDUs. This variable is used to count the number of times an SDU has been sent, and the corresponding looped back SDU has been |  |  |
| tcv_NumStatusRx     | INTEGER                         | 0     | received. This variable is used to count  |  |  |
|                     |                                 |       | the number of STATUS PDUs that have been received   |  |  |
| tcv_NumTimeouts     | INTEGER                         | 0     | Used to count the number of timeouts that have occurred in a certain period.  |  |  |
| tcv_OtherReceived   | BOOLEAN                         | FALSE | This variable is used as a flag to support interleaving of received AMD Data  |  |  |
|                     |                                 |       | and STATUS PDUs. This variable is set to TRUE when an unexpected PDU is   |  |  |
| tcv_PayloadSize     | INTEGER                         | 0     | received.  This variable is used to maintain the current payload size in octets.  |  |  |

| Test Case Variable Declarations |                    |                            |   |  |
|---------------------------------|--------------------|----------------------------|---|--|
| Variable Name                   | Туре               | Value                      | Comments  |  |
| tcv_Poll                        | PollingBit         | tsc_P_NoPoll               | This variable is used to manage the poll bit for test cases that must poll when   |  |
| tcv_Poll_PDU                    | INTEGER            | 0                          | specific conditions are met.  This variable is used in 7.2.3.28 to caluculate the number of PDUs required to  |  |
| tcv_RB_Established              | BOOLEAN            | FALSE                      | transmit the SDU used for testing. It's value must be the same as the value signalled in the RB setup message. This variable is used as a flag to indicate whether the RB has been established. |  |
|                                 |                    |                            | This variable is managed by the following test steps:   |  |
|                                 |                    |                            | pr_RB_SetupUM7  |  |
|                                 |                    |                            | pr_RB_SetupUM7_48k  |  |
|                                 |                    |                            | pr_RB_SetupUM15   |  |
|                                 |                    |                            | pr_RB_SetupUM15_64k   |  |
|                                 |                    |                            | pr_RB_SetupAM7  |  |
|                                 |                    |                            | pr_RB_SetupAM7_48k  |  |
|                                 |                    |                            | pr_RB_SetupAM15   |  |
|                                 |                    |                            | pr_RB_SetupAM15_64k   |  |
|                                 |                    |                            | po_RB_Release   |  |
|                                 |                    |                            | This variable is checked in the postamble po_GenericCleanupProcedur es to see if the RB should be released or not.  |  |
| tcv_RLC_EstCau                  | EstablishmentCause | terminatingInteractiveCall | This variable is used to store the EstablishmentCause   |  |
| tcv_RLC_PagingCau               | PagingCause        | terminatingInteractiveCall | This variable is used to store the PagingCause  |  |
| tcv_RLC_RAB_ld                  | BITSTRING          | tsc_PS_DefaultRAB_Id       | This variable is used to store the Radio Access Bearer Id   |  |
| tcv_RLC_RB_ld                   | RB_Identity        | tsc_PS_DefaultRB_Id        | This variable is used to store the Radio Bearer Id  |  |
| tcv_RLC_WaitForPoll             | BOOLEAN            | FALSE                      | This variable is used to indicate that an RLC PDU with Pollbit is expected which is to be ack'ed properly.  |  |

| Continued from previous page | Test Case Variable Declarations |               |   |  |  |
|------------------------------|---------------------------------|---------------|---|--|--|
| Variable Name                | Туре                            | Value         | Comments  |  |  |
| tcv_ResAndSUFIs              | ResAndSUFIs                     |               | This variable is used to store the result and SUFI list which is output produced by TSO o_SUFI_Handler.   |  |  |
| tcv_ResetPDU                 | RESET_PDU                       |               | This variable is used to store a received RESET PDU.  |  |  |
| tcv_RxPRBS_Pos               | INTEGER                         | 0             | This variable is used to store the current reception position within the PRBS.  |  |  |
|                              |                                 |               | This variable must be updated after each call to o_GetN_OctetsFromPRBS.   |  |  |
| tcv_SDU_Num                  | INTEGER                         | 1             | This variable is used to store the number of the next SDU to be sent. This is   |  |  |
|                              |                                 |               | used for test cases that<br>must perform specific<br>actions after transmitting N   |  |  |
|                              |                                 |               | SDUs. For example, the poll bit shall be set for SDU number P.  |  |  |
| tcv_StatusPDU                | STATUS_PDU                      | cr_StatusOmit | This variable is used to store a received STATUS PDU.   |  |  |
| tcv_StatusReceived           | BOOLEAN                         | FALSE         | This variable is used as a flag to support interleaving of received AMD Data  |  |  |
|                              |                                 |               | and STATUS PDUs. This variable is set to TRUE when a single PDU containing  |  |  |
|                              |                                 |               | STATUS has been received (this may be a piggybacked status PDU).  |  |  |
| tcv_StatusToBeSent           | BOOLEAN                         | FALSE         | This variable is used as a flag<br>to support interleaving of<br>sending AMD Data   |  |  |
|                              |                                 |               | and STATUS PDUs. This variable is set to TRUE when a  |  |  |
|                              |                                 |               | STATUS PDU is to be sent, and it is reset once this has been done. Used to ensure that either AMD Data or STATUS PDU are sent per TTI. There may be only one STATUS PDU to be sent per TTI. |  |  |
| tcv_TempPRBS_Pos             | INTEGER                         | 0             | This variable is used for temporary storage of the current PRBS position, to be restored later when PDUs must be retransmitted.   |  |  |

|                       | Test Case Variable Declarations |   |   |  |  |
|-----------------------|---------------------------------|---|---|--|--|
| Variable Name         | Туре                            | Value   | Comments  |  |  |
| tcv_Tolerance         | INTEGER                         | 0   | This test case variable is used to store the timer tolerance used to check times elapsed.   |  |  |
| tcv_TxOK              | BOOLEAN                         | TRUE  | This variable is used as a flag to indicate if further PDUs should be transmitted. For example, it may be set to FALSE until a specific condition has |  |  |
|                       |                                 |   | been met.   |  |  |
| tcv_TxPRBS_Pos        | INTEGER                         | 0   | This variable is used to store the current transmission position within the   |  |  |
|                       |                                 |   | PRBS. This variable must be updated after each call to o_GetN_OctetsFromPRBS.   |  |  |
| tcv_UE_TestLoopClosed | BOOLEAN                         | FALSE   | This variable is used as a flag to indicate whether the TC test loop has been   |  |  |
|                       |                                 |   | closed. This variable is managed by the test steps pr_CloseUE_TestLoop, and   |  |  |
|                       |                                 |   | po_OpenUE_TestLoop. This variable is checked in the postamble po_GenericCleanupProcedur es to see if the test loop should be re-opened or not.        |  |  |
| tcv_UE_TxWinFull      | BOOLEAN                         | FALSE   | This variable is used as a flag within UE transmission window tests. The flag   |  |  |
|                       |                                 |   | is set to TRUE when the UE window is expected to be full.   |  |  |
| tcv_UMD_MSG           | UMD_PDU_MSG                     | c_UMD_MSG(<br>INT_TO_BIT( 0,<br>tsc_UM_SN_Size ), | This variable is used to store<br>the next UMD PDU MSG to<br>be received when 7   |  |  |
|                       |                                 | tsc_E_Data,<br>OMIT,<br>OMIT)                     | or 15 bit length indicators are used (and padding is to be ignored).  |  |  |
| tcv_UMD_PDU           | UMD_PDU                         | c_UMD_Default                                     | This variable is used to store the next UMD PDU to be transmitted when 7  |  |  |
|                       |                                 |   | or 15 bit length indicators are used. Used in reception as well.  |  |  |

|                        | Test Case Variable Declarations |                               |  |  |  |
|------------------------|---------------------------------|-------------------------------|--|--|--|
| Variable Name          | Туре                            | Value                         | Comments   |  |  |
| tcv_UM_Data            | UM_DataStruct                   | c_UM_DataStruct( OMIT, FALSE) | This variable is used to store the data part of the next UMD payload unit to be transmitted when 7 or 15 bit |  |  |
|                        |                                 |                               | length indicators are used.<br>Generally this data is  |  |  |
|                        |                                 |                               | created via a call to o_GetN_OctetsFromPRBS.   |  |  |
| tcv_UM_VRUS            | INTEGER                         | 0                             | UM data state variable VR(US). This variable is used to store the sequence                                   |  |  |
|                        |                                 |                               | number of the next UMD<br>PDU to be received. Ref 3G<br>TS 25.322 clause 9.4 (Rx) d.                         |  |  |
| tcv_UM_VTUS            | INTEGER                         | 0                             | UM data state variable VT(US). This variable is used to store the sequence                                   |  |  |
|                        |                                 |                               | number of the next UMD<br>PDU to be transmitted. Ref<br>3G TS 25.322 clause 9.4                              |  |  |
|                        |                                 |                               | (Tx) e.  |  |  |
| tcv_ActTime            | ActivationTime                  | 0                             | Activation Time  |  |  |
| tcv_Assigned_PTMSI_Sig | O3                              | px_PTMSI_SigDef               | Current assigned PTMSI signature   |  |  |
| tcv_AssignedPTMSI      | OCTETSTRING                     | px_PTMSI_Def                  | Current assigned PTMSI   |  |  |
| tcv_AssignedTMSI       | OCTETSTRING                     | px_TMSI_Def                   | Current assigned TMSI  |  |  |
| tcv_AuthAK             | BITSTRING                       | INT_TO_BIT ( 0, 48 )          | Anonymity Key<br>48 bits (TS 33.102 cl. 6.3.7,<br>TS 34.108 cl. 8.1.2)                                       |  |  |
| tcv_AuthAMF            | BITSTRING                       | px_AuthAMF                    | Authentication Management<br>Field<br>16 bits (TS 33.102 cl. 6.3.7,<br>TS 34.108 cl. 8.1.2)                  |  |  |
| tcv_AuthAUTN           | B128                            | INT_TO_BIT ( 0, 128 )         | to hold complete calculated<br>AUTN 128 bits (TS24.008 cl<br>10.5.3.1.1)                                     |  |  |
| tcv_AuthAUTN_1         | B48                             | INT_TO_BIT ( 0, 48 )          | to hold first part of calculated AUTN 64 bits  |  |  |
| tcv_AuthAUTN_2         | B80                             | INT_TO_BIT ( 0, 80 )          | to hold second part of calculated AUTN 64 bits   |  |  |
| tcv_AuthCDOUT          | BITSTRING                       | INT_TO_BIT ( 0, 64 )          | CDOUT 64 bits (TS 34.108 cl. 8.1.2)  |  |  |
| tcv_AuthCK             | BITSTRING                       | INT_TO_BIT ( 0, 128 )         | Ciphering Key<br>128 bits (TS 33.102 cl.<br>6.3.7, TS 34.108 cl. 8.1.2)                                      |  |  |
| tcv_AuthCK_1           | BITSTRING                       | INT_TO_BIT ( 0, 64 )          | Ciphering Key 1st part (bits 0–63) 64 bits (TS 33.102 cl. 6.8.1.2)   |  |  |

|                    | Test Case Variable Declarations |                       |   |  |
|--------------------|---------------------------------|-----------------------|---|--|
| Variable Name      | Туре                            | Value                 | Comments  |  |
| tcv_AuthCK_2       | BITSTRING                       | INT_TO_BIT ( 0, 64)   | Ciphering Key 2nd part (bits 64–127) 64 bits (TS 33.102 cl. 6.8.1.2)  |  |
| tcv_AuthCK_XOR     | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | Ciphering Key 1st and 2nd part, XORed 64 bits (TS 33.102 cl. 6.8.1.2)   |  |
| tcv_AuthIK         | BITSTRING                       | INT_TO_BIT ( 0, 128 ) | Integrity Key<br>128 bits (TS 33.102 cl.<br>6.3.7, TS 34.108 cl. 8.1.2)   |  |
| tcv_AuthIK_1       | BITSTRING                       | INT_TO_BIT ( 0, 64)   | Integrity Key 1st part (bits 0–63) 64 bits (TS 33.102 cl. 6.8.1.2)  |  |
| tcv_AuthIK_2       | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | Integrity Key 2nd part (bits 64–127) 64 bits (TS 33.102 cl. 6.8.1.2)  |  |
| tcv_AuthIK_XOR     | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | Integrity Key 1st and 2nd part, XORed 64 bits (TS 33.102 cl. 6.8.1.2)   |  |
| tcv_AuthK          | BITSTRING                       | px_AuthK              | Authentication Key<br>128 bits (TS 33.102 cl.<br>6.3.7, TS 34.108 cl. 8.1.2)  |  |
| tcv_AuthKcGSM      | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | GSM Cipher Key<br>64 bits (TS 33.102 cl.<br>6.8.1.2)  |  |
| tcv_AuthMAC        | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | Message Authentication<br>Code<br>64 bits (TS 33.102 cl. 6.3.7,<br>TS 34.108 cl. 8.1.2)                                       |  |
| tcv_AuthN          | INTEGER                         | px_AuthN              | min 31, max 127 (TS 34.108 cl. 8.1.2)   |  |
| tcv_AuthRAND       | BITSTRING                       | px_AuthRAND           | Random Challenge<br>128 bits (TS 33.102 cl.<br>6.3.7, TS 34.108 cl. 8.1.2)  |  |
| tcv_AuthRsp        | AuthRsp                         | INT_TO_BIT (0,32)     | to hold a Authentication<br>Response parameter value<br>received from the UE 32<br>bits (TS 24.008 cl 10.5.3.2)               |  |
| tcv_AuthRspExt     | AuthRspExt                      |                       | to hold a Authentication<br>Response Extension<br>parameter value received<br>from the UE 96 bits<br>(TS24.008 cl 10.5.3.2.1) |  |
| tcv_AuthRspPDU     | AUTHENTICATIONRESPO<br>NSE      |                       | to hold a Authentication<br>Response PDU  |  |
| tcv_AuthXDOUT      | BITSTRING                       | INT_TO_BIT ( 0, 128 ) | XDOUT 128 bits (TS 34.108 cl. 8.1.2)  |  |
| tcv_AuthXDOUT_Half | BITSTRING                       | INT_TO_BIT ( 0, 64 )  | lower half of XDOUT<br>64 bits (TS 34.108 cl. 8.1.2)  |  |
| tcv_AuthXRES       | BITSTRING                       | INT_TO_BIT ( 0, 32 )  | XRES min 32, max 128 bits<br>(TS 34.108 cl. 8.1.2)  |  |

| Test Case Variable Declarations |                     |   |  |
|---------------------------------|---------------------|---|--|
| Variable Name                   | Туре                | Value   | Comments   |
| tcv_BCCH_ModifyTime             | INTEGER             | 512   | To hold the BCCH modification time to be used by PAGING TYPE1 or SYSTEM INFORMATION CHANGE INDICATION. The initial value indicates changing now. |
| tcv_CellIndInfo                 | CellIndependantInfo | c_CellIndInfoDef  |  |
| tcv_CellInfoA                   | CellinfoCfg         | c_CellInfoDef ( tsc_CellA, px_PriScrmCode, tsc_URA_IdCellA, px_TCellA, tsc_SFN_OffsetA, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode )                         |  |
| tcv_CellInfoB                   | CellInfoCfg         | c_CellInfoDef ( tsc_CellB, px_PriScrmCode, tsc_URA_IdCellB, px_TCellB, tsc_SFN_OffsetB, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 1000) MOD 16777216 )) |  |
| tcv_CellInfoC                   | CellInfoCfg         | c_CellInfoDef ( tsc_CellC, px_PriScrmCode, tsc_URA_IdCellC, px_TCellC, tsc_SFN_OffsetC, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 2000) MOD 16777216))  |  |
| tcv_CellInfoD                   | CellInfoCfg         | c_CellInfoDef ( tsc_CellD, px_PriScrmCode, tsc_URA_IdCellD, px_TCellD, tsc_SFN_OffsetD, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 3000) MOD 16777216))  |  |

|                                      | Test Case Variable Declarations   |  |   |  |
|--------------------------------------|-----------------------------------|--|---|--|
| Variable Name                        | Туре                              | Value  | Comments  |  |
| tcv_CellInfoE                        | CellInfoCfg                       | c_CellInfoDef ( tsc_CellE, px_PriScrmCode, tsc_URA_IdCellE, px_TCellE, tsc_SFN_OffsetE, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 4000) MOD 16777216 ) ) |   |  |
| tcv_CellInfoF                        | CellInfoCfg                       | c_CellInfoDef ( tsc_CellF, px_PriScrmCode, tsc_URA_IdCellF, px_TCellF, tsc_SFN_OffsetF, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 5000) MOD 16777216 ) ) |   |  |
| tcv_CellInfoG                        | CellInfoCfg                       | c_CellInfoDef ( tsc_CellG, px_PriScrmCode, tsc_URA_IdCellG, px_TCellG, tsc_SFN_OffsetG, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 6000) MOD 16777216 ) ) |   |  |
| tcv_CellInfoH                        | CellInfoCfg                       | c_CellInfoDef ( tsc_CellH, px_PriScrmCode, tsc_URA_IdCellH, px_TCellH, tsc_SFN_OffsetH, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), ((px_UL_ScramblingCode + 7000) MOD 16777216 ) ) |   |  |
| tcv_CipherActTime                    | ActivationTime                    | 0  | Activation Time   |  |
| tcv_CN_Domain                        | CN_DomainIdentity                 | cs_domain  |   |  |
| tcv_Count                            | INTEGER                           | 0  | To hold a temporary counter value.  |  |
| tcv_CS_KeySeq<br>tcv_DefaultRadioCnf | KeySeq<br>BOOLEAN                 | tsc_KeySeqDef<br>TRUE  | To be used in test cases that require a non deault radio configuration. TRUE: a default radio configuration is to be used FALSE: a non default radio configuration is to be used. |  |
| tcv_dRX_CycleLengthPagin             | UTRAN_DRX_CycleLength Coefficient |  | DRX cycleLength value to be used for PAGING   |  |

|                         | Test Case Variable Declarations |   |   |  |
|-------------------------|---------------------------------|---|---|--|
| Variable Name           | Туре                            | Value   | Comments  |  |
| tcv_E_PLMN              | PLMN_List                       | c_PLMN_List1<br>(o_ConvtPLMN(tsc_MCC_<br>Def, tsc_MNC_Def))   |   |  |
| tcv_FrameNumber         | INTEGER                         | 0   | Values 04095  |  |
| tcv_FreqInfoHigh        | FrequencyInfo                   | c_FreqInfo (<br>px_UARFCN_D_High –<br>950 ,<br>px_UARFCN_D_High)  |   |  |
| tcv_FreqInfoLow         | FrequencyInfo                   | c_FreqInfo (<br>px_UARFCN_D_Low - 950<br>, px_UARFCN_D_Low)   |   |  |
| tcv_FreqInfoMid         | FrequencyInfo                   | c_FreqInfo (<br>px_UARFCN_D_Mid - 950<br>, px_UARFCN_D_Mid)   |   |  |
| tcv_GMM_AttachExpect    | BOOLEAN                         | FALSE   | This TCV is to be used in Idle update step in NMO2 for a class A Mobile   |  |
| tcv_GMM_AttachRec       | BOOLEAN                         | FALSE   | This TCV is to be used in Idle update step in NMO2 for a class A Mobile   |  |
| tcv_GMM_DetachExpect    | BOOLEAN                         | FALSE   | This TCV is to be used in the Detach Handling   |  |
| tcv_GMM_RAU_Expect      | BOOLEAN                         | FALSE   | This TCV is to be used in the Routing Area Update Handler   |  |
| tcv_GMM_RAU_Rec         | BOOLEAN                         | FALSE   | This TCV is to be used in the Routing Area Update Handler   |  |
| tcv_HFN                 | B20                             | '000000000000000000000000000000000000   | Hyper Frame Number for CS or PS domain – to be used in security steps   |  |
| tcv_InitialUE_Id        | InitialUE_Identity              | c_UE_ldDefIMSI  | Used to store the UE Identity   |  |
| tcv_Int_ModifyFlag      | BOOLEAN                         | FALSE   | This Flag will be used in Security related steps. If it is set to True, it means that A Integrity Modification is being done at that stage. |  |
| tcv_K                   | INTEGER                         | 0   |   |  |
| tcv_MIB                 | MasterInformationBlock          | c_MIB_Def (c_CellInfoDef ( tsc_CellA, px_PriScrmCode, tsc_URA_IdCellA, px_TCellA, tsc_SFN_OffsetA, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode )) | the initial value c_MIB_DefUTRAN_GERAN is for UTRAN/GERAN, for UTRAN only tcv_MIB shall be re-initialized to c_MIB_Def_UTRAN.               |  |
| tcv_MIB_ValueTagChanged | BOOLEAN                         | TRUE  | initial value = TRUE, set to<br>TRUE after MIBValueTag<br>changed, set to FALSE after<br>MIB delivered to SS.                               |  |

|                                | Test Case Variable Declarations |   |  |  |
|--------------------------------|---------------------------------|---|--|--|
| Variable Name                  | Туре                            | Value                                   | Comments   |  |
| tcv_MM_TestExecution           | BOOLEAN                         | FALSE                                   | Indication of MM test execution, set to TRUE once NMO II is set, used to properly handle ATTACH and DETACH procedures in MM tests  |  |
| tcv_N308                       | INTEGER                         | 2                                       |  |  |
| tcv_NumCfgCell                 | INTEGER                         | 0                                       | Number of cells configured   |  |
| tcv_NumOfPLMN                  | INTEGER                         | 1                                       | This TCV is used to decide if the test case is a Single PLMN or Multi PLMN test case and based on it initialise SIB 11, 12 & 18 accordingly.  Values 1>> 1 PLMN, 2 >> 2 PLMN, 3 >> 3 PLMN Rest Not defined |  |
| tcv_PollSDU                    | Poll_SDU                        | sdu1                                    | number of SDU's between pollings, this initial value is for ts_SS_CreateCellFACH. (from 34.123–1). used in RB2, RB3, RB4.  |  |
| tcv_PollWindow                 | PollWindow                      | pw99                                    | percentage of transmission<br>window,threshold for<br>polling, this initial value is<br>for ts_SS_CreateCellFACH.<br>(from 34.123–1). used in<br>RB2, RB3, RB4.  |  |
| tcv_PS_AuthCK                  | BITSTRING                       | INT_TO_BIT ( 0, 128 )                   | Ciphering Key for PS domain 128 bits (TS 33.102 cl. 6.3.7, TS 34.108 cl. 8.1.2)  |  |
| tcv_PS_AuthIK                  | BITSTRING                       | INT_TO_BIT ( 0, 128 )                   | Integrity Key for PS domain<br>128 bits (TS 33.102 cl.<br>6.3.7, TS 34.108 cl. 8.1.2)  |  |
| tcv_PS_KeySeq                  | KeySeq                          | tsc_KeySeqDef                           | Ciphering key sequence number for PS domain  |  |
| tcv_RB_ActivationTimeInfoL ist | RB_ActivationTimeInfoList       | cs_RB_ActTimeInfoListSRB<br>s (0,0,0,0) |  |  |
| tcv_RB_SigResumed              | BOOLEAN                         | FALSE                                   |  |  |
| tcv_RB_TestModeActivated       | BOOLEAN                         | FALSE                                   | Set to TRUE if RB test mode is activated. To be used in the postamble: when RB test mode has been used then NAS do not need to be released.  |  |
| tcv_ReceivePS_ServiceReq       | BOOLEAN                         | FALSE                                   | This Type tcv by default will be set to False. It will be set to TRUE, when MO Service request has been rejected, and hence Ue can retransmit Service Request which should be handled in Default handlers. |  |
| tcv_Res                        | BOOLEAN                         | FALSE                                   | to hold the BOOLEAN result of a test suite operation or a test Step  |  |

|                         | Test Case Variable Declarations |           |  |  |
|-------------------------|---------------------------------|-----------|--|--|
| Variable Name           | Туре                            | Value     | Comments   |  |
| tcv_RLC_IgnoreStatus    | BOOLEAN                         | FALSE     | This variable is used to indicate that an RLC STATUS PDU may be received and should be ignored .                             |  |
| tcv_RLC_SeqNumDL_RB1    | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB1  |  |
| tcv_RLC_SeqNumDL_RB2    | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB2  |  |
| tcv_RLC_SeqNumDL_RB20   | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB20   |  |
| tcv_RLC_SeqNumDL_RB21   | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB21   |  |
| tcv_RLC_SeqNumDL_RB22   | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB22   |  |
| tcv_RLC_SeqNumDL_RB24   | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB24   |  |
| tcv_RLC_SeqNumDL_RB3    | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB3  |  |
| tcv_RLC_SeqNumDL_RB4    | RLC_SequenceNumber              | 0         | Downlink RLC Sequence<br>Number for RB4  |  |
| tcv_RRC_MSN_RB0         | RRC_SequenceNumber              | 0         | Used to store the MSN of RB0   |  |
| tcv_RRC_MSN_RB1         | RRC_SequenceNumber              | 0         | Used to store the MSN of RB1   |  |
| tcv_RRC_MSN_RB2         | RRC_SequenceNumber              | 0         | Used to store the MSN of RB2   |  |
| tcv_RRC_MSN_RB2_UL      | RRC_SequenceNumber              | 0         | Used to store the UL MSN of RB2  |  |
| tcv_RRC_MSN_RB3         | RRC_SequenceNumber              | 0         | Used to store the MSN of RB3   |  |
| tcv_RRC_MSN_RB4         | RRC_SequenceNumber              | 0         | Used to store the MSN of RB4   |  |
| tcv_RRC_Ti              | RRC_TransactionIdentifier       | 0         | To hold the RRC Transaction Identifier.  |  |
| tcv_SB1                 | SysInfoTypeSB1                  | c_SB1_Def | the initial value c_SB1_DefUTRAN_GERAN is for UTRAN/GERAN, for UTRAN only tcv_SB1 shall be re-initialized to c_SB1_DefUTRAN. |  |
| tcv_SB1_ValueTag        | INTEGER                         | 1         | To hold current SB1_ValueTag, value range is 1 to 4.   |  |
| tcv_SB1_ValueTagChanged | BOOLEAN                         | FALSE     | initial value = FALSE, set to<br>TRUE after SB1ValueTag<br>changed, set to FALSE after<br>SB1 delivered to SS.               |  |
| tcv_Segs                | SegmentsOfSysInfoBlock          |           | Variable buffering the result of SIBSegmentation   |  |

|               | Test Case Variable Declarations |  |          |  |
|---------------|---------------------------------|--|----------|--|
| Variable Name | Туре                            | Value  | Comments |  |
| tcv_SIB1      | SysInfoType1                    | cb_SIB1_Def (     c_CellInfoDef (     tsc_CellA,     px_PriScrmCode,     tsc_URA_IdCellA,     px_TCellA,tsc_SFN_Offset     A, c_FreqInfo (     px_UARFCN_D_Mid - 950     , px_UARFCN_D_Mid),     px_UL_ScramblingCode ))   |          |  |
| tcv_SIB11     | SysInfoType11                   | cb_SIB11_Def( c_CellInfoDef ( tsc_CellA,     px_PriScrmCode,     tsc_URA_IdCellA,     px_TCellA,     tsc_SFN_OffsetA,     c_FreqInfo (     px_UARFCN_D_Mid),     px_UL_ScramblingCode ),     c_CellInfoDef (     tsc_CellB,     px_TCellB,     tsc_SFN_OffsetB,     c_FreqInfo (     px_UARFCN_D_Mid) = 950     , px_URFCN_D_Mid = 950     , px_URFCN_D_Mid = 950     , px_UARFCN_D_Mid = 950     , px_UARFCN_D_Mid),     px_UL_ScramblingCode ),     c_CellInfoDef (     tsc_CellC,     px_TcellC,     tsc_SFN_OffsetC,     c_FreqInfo (     px_UARFCN_D_Mid = 950     , px_UARFCN_D_Mid = 950     , px_UARFCN_D_Mid = 950     , px_UARFCN_D_Mid),     px_UL_ScramblingCode ),     c_CellInfoDef (     tsc_CellD,     px_TcellD,     tsc_SFN_OffsetD,     c_FreqInfo (     px_UARFCN_D_Mid = 950     , px_UARFCN_ |          |  |

|               | Test Case Variable Declarations |   |  |  |
|---------------|---------------------------------|---|--|--|
| Variable Name | Туре                            | Value   | Comments   |  |
|               |                                 | tsc_CellF, px_PriScrmCode, tsc_URA_IdCellF, px_TCellF, tsc_SFN_OffsetF, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode ), c_CellInfoDef ( tsc_CellG, px_PriScrmCode, tsc_URA_IdCellG, px_TCellG, tsc_SFN_OffsetG, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode ), c_CellInfoDef ( tsc_CellH, px_PriScrmCode, tsc_URA_IdCellH, px_TCellH, tsc_SFN_OffsetH, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode ) ) |  |  |
| tcv_SIB12     | SysInfoType12                   | cb_SIB12_Def  |  |  |
| tcv_SIB18     | SysInfoType18                   |   | no initial value   |  |
| tcv_SIB2      | SysInfoType2                    |   | no initial value   |  |
| tcv_SIB3      | SysInfoType3                    | cb_SIB3_DefUTRAN_GERA N( c_CellInfoDef (     tsc_CellA,     px_PriScrmCode,     tsc_URA_IdCellA,     px_TCellA,     tsc_SFN_OffsetA,     c_FreqInfo (     px_UARFCN_D_Mid - 950     , px_UL_ScramblingCode ))   | the initial value c_SB3_DefUTRAN_GERAN is for UTRAN/GERAN, for UTRAN only tcv_SB3 shall be re-initialized to c_SB3_DefUTRAN. |  |
| tcv_SIB4      | SysInfoType4                    | cb_SIB4_DefUTRAN_GERA N ( c_CellInfoDef (  tsc_CellA,  px_PriScrmCode,  tsc_URA_IdCellA,  px_TCellA,tsc_SFN_Offset A, c_FreqInfo (  px_UARFCN_D_Mid - 950  , px_UARFCN_D_Mid),  px_UL_ScramblingCode ))   | the initial value c_SB4_DefUTRAN_GERAN is for UTRAN/GERAN, for UTRAN only tcv_SB4 shall be re-initialized to c_SB4_DefUTRAN. |  |
| tcv_SIB7      | SysInfoType7                    | c_SIB7_Def  |  |  |
| tcv_Start     | START_Value                     | '000000000000000000000'B  | To hold the START value received in the INITIAL DIRECT TRANSFER message  |  |

| Test Case Variable Declarations |  |   |   |
|---------------------------------|--|---|---|
| Variable Name                   | Туре                                   | Value   | Comments  |
| tcv_StartList                   | STARTList                              | c_StartListCS   | To hold the START list sent by UE   |
| tcv_SubChNum                    | AvailableSubChannelNumber s            | '111111111111'B   | Available subchannel<br>numbers for PRACH, this<br>initial value is for<br>ts_SS_CreateCellFACH.<br>(from 34.108 cl. 6.1<br>(SIB5)) |
| tcv_TestBody                    | BOOLEAN                                | FALSE   | to indicate if the test body is currently being executed  |
| tcv_TGCFN                       | TGCFN                                  | 0   |   |
| tcv_Time                        | INTEGER                                | 0   | to hold the measured value of timers  |
| tcv_TimeoutInDefault            | BOOLEAN                                | FALSE   | Indication of a TimeoutInDefault having occurred  |
| tcv_TimerPoll                   | TimerPoll                              | tp400   | value for polling timer, this initial value is for ts_SS_CreateCellFACH. (from 34.123–1). used in RB2, RB3, RB4                     |
| tcv_TimerPollProhibit           | TimerPollProhibit                      | tpp200  | minimum time between polls,<br>this initial value is for<br>ts_SS_CreateCellFACH.<br>(from 34.123–1). used in<br>RB2, RB3, RB4      |
| tcv_TmpAttachReqPDU             | ATTACHREQUEST                          |   | Temporary variable  |
| tcv_TmpAuthAndCiphRspP<br>DU    | AUTHENTICATIONANDCIP<br>HERINGRESPONSE |   | Temporary variable  |
| tcv_TmpB3                       | B3                                     | '000'B  | Temporary variable  |
| tcv_TmpCellInfo                 | CellInfoCfg                            | c_CellInfoDef ( tsc_CellA, px_PriScrmCode, tsc_URA_IdCellA, px_TCellA, tsc_SFN_OffsetA, c_FreqInfo ( px_UARFCN_D_Mid - 950 , px_UARFCN_D_Mid), px_UL_ScramblingCode ) | To temporary store CellInfo data  |
| tcv_TmpRAU_ReqPDU               | ROUTINGAREAUPDATERE<br>QUEST           | - ,   | Temporary variable  |
| tcv_UE_OpMode                   | UE_OperationMode                       | px_UE_OpModeDef   | Indicates the current UE operation mode (either A or C).  |

|                          | Test Case Variable Declarations |       |   |  |
|--------------------------|---------------------------------|-------|---|--|
| Variable Name            | Туре                            | Value | Comments  |  |
| tcv_UE_SwitchedOn        | BOOLEAN                         | TRUE  | This value is to represent the state of the UE. TRUE means UE is Switched/Powered On, and hence only Switch/Power OFF operation can be done, and no Switch/Power On operation. False Means, UE is off, and only Switch/Power On Operation can be done. This Variable is introduced to help automation of test cases. The dafault value of ON, is consistent with present Test Sequence, where MMI command to switch/Power off is called before creation of the first cell on SS Side. |  |
| tcv_UE_SystemSpecificCap | INTEGER                         | 0     | use to represent the integer equivalent of 7 bit UE system specific Capability. The Valid range is 0 to 127   |  |
| tcv_Use_E_PLMN           | BOOLEAN                         | FALSE | The user of ts_IdleUpdated needs to set tcv_Use_E_PLMN to 'True' if he wants to send 'equivalent PLMN list' as set in tcv_E_PLMN during CS or PS registration   |  |
| Detailed Comments :      |                                 |       |   |  |

| PCO Type Declarations |      |          |  |
|-----------------------|------|----------|--|
| PCO Type              | Role | Comments |  |
| DSAP                  | LT   |          |  |
| CSAP                  | LT   |          |  |
| Dc_SAP                | LT   |          |  |
| ММІ                   | UT   |          |  |
| Detailed Comments :   |      |          |  |

| PCO Name | PCO Type | Role | Comments  |
|----------|----------|------|---|
| AM       | DSAP     | LT   | PCO above AM SAP of RLC                           |
| CMAC     | CSAP     | LT   | Control and observation point between RRC and MAC |
| СРНҮ     | CSAP     | LT   | Control and observation point between RRC and PHY |
| CRLC     | CSAP     | LT   | Control and observation point between RRC and RLC |
| Dc       | Dc_SAP   | LT   | Carry transmission and reception of NAS messages  |
| TM       | DSAP     | LT   | PCO above TM SAP of RLC                           |
| UM       | DSAP     | LT   | PCO above UM SAP of RLC                           |
| Ut       | MMI      | UT   | The PCO used for the upper tester                 |

|                    | Timer De | clarations |   |
|--------------------|----------|------------|---|
| Timer Name         | Duration | Unit       | Comments  |
| t_NoUE_Tx          | 40       | ms         | This timer is used to ensure that no transmissions are sent from the UE within        |
|                    |          |            | a specified time. For example:  |
|                    |          |            | START t_NoUE_Tx   |
|                    |          |            | TM ? RxData (F)   |
|                    |          |            | ? TIMEOUT t_NoUE_Tx<br>(P)  |
| t_TTI              | 20       | ms         | The timer t_TTI is used to trigger transmission of the next PDU for test cases        |
|                    |          |            | that have interleaved<br>transmission and reception.<br>Each time this timer expires, |
|                    |          |            | the next PDU is transmitted, and the timer is restarted.                              |
|                    |          |            | In general test cases using this timer will have the following structure:             |
|                    |          |            | START t_TTI<br>REPEAT lt_TxAndRx<br>UNTIL [ tcv_TestComplete ]                        |
|                    |          |            | It_TxAndRx<br>TM ? RxData<br>? TIMEOUT t_TTI  |
|                    |          |            | TM ! TxData<br>START t_TTI  |
|                    |          |            | The duration TTI has been selected as an appropriate 'small' period of time           |
|                    |          |            | between transmissions from<br>the TTCN.<br>See TS 34.108 cl. 6.11                     |
| t_TimeoutInDefault | 300      | ms         | Used to catch timeouts in the Defaults  |
| t_Dly              | 5000     | ms         | general purpose delay timer   |
| t_Guard            | 300      | s          | test case guard timer   |
| t_LowerBound       | 4500     | ms         | the lower bound timer   |

|                     | Time     | r Declarations |  |
|---------------------|----------|----------------|--|
| Timer Name          | Duration | Unit           | Comments   |
| t_Poll              | 60000    | ms             | This timer is used to ensure that PDUs are received with the poll bit set. The duration of this timer must be longer than the duration of the test body. Expiry of this timer is handled in the RLC_Default behaviour table, and results in an inconclusive verdict.   |
| t_Reset             | 5000     | ms             | This timer is used to ensure that RESET PDUs are received. The duration of this timer must be longer than the duration of the test body. Expiry of this timer is handled in the RLC_Default behaviour table, and results in an inconclusive verdict.   |
| t_Status            | 10000    | ms             | This timer is used to ensure that STATUS PDUs are received. In general, it is started at the beginning of the test body. The duration of this timer must be longer than the duration of the test body. Expiry of this timer is handled in the RLC_Default behaviour table, and results in an inconclusive verdict. |
| t_T312              | 1        | S              | Timer to check physical channel establishment criteria   |
| t_UpperBound        | 5500     | ms             | the upper bound timer  |
| t_WaitMS            | 13500    | ms             | general wait timer   |
| t_WaitS             | 15       | s              | general watch timer  |
| Detailed Comments : |          |                |  |

# **ASP Type Definition**

ASP Name: AT\_CmdCnf
PCO Type: MMI

Comments: The ASP is used get the result of a requested AT command previously sent to the UT (UT ->LT).

| Parameter Type | Comments  |
|----------------|---|
| BOOLEAN        | OPTIONAL  |
| IA5String      | OPTIONAL  |
| HEXSTRING      | to control and observe the Block mode procedure for SMS |
|                | BOOLEAN<br>IA5String                                    |

**Detailed Comments:** 

# **ASP Type Definition**

**ASP Name**: AT\_CmdReq **PCO Type**: MMI

Comments: The ASP is used to request a AT command to the UT (LT ->UT).

| Parameter Name | Parameter Type | Comments  |
|----------------|----------------|---|
| cmd            | IA5String      | command line  |
| sMS_BlockMode  | HEXSTRING      | to control and observe the Block mode procedure for SMS |

**Detailed Comments:** 

# **ASP Type Definition**

**ASP Name**: MMI\_CmdCnf

PCO Type : MMI

Comments: The ASP is used get the result of a requested command previously sent to the UT (UT ->LT).

| Parameter Name | Parameter Type | Comments |
|----------------|----------------|----------|
| result         | BOOLEAN        |          |
| resultString   | IA5String      | OPTIONAL |

**Detailed Comments:** 

# **ASP Type Definition**

ASP Name: MMI\_CmdReq

PCO Type : MMI

Comments: The ASP is used to request an MMI command to the UT (LT ->UT).

| Parameter Name | Parameter Type | Comments     |
|----------------|----------------|--------------|
| cmd            | IA5String      | command line |
| Day 11 LO      |                |              |

# **ASP Type Definition**

ASP Name: RLC\_TR\_TestDataInd

PCO Type : DSAP

Comments: To indicate the reception of unstructered data using transparent mode in the uplink direction

| Parameter Name | Parameter Type | Comments                 |
|----------------|----------------|--------------------------|
| cellId         | INTEGER        |                          |
| rB_ld          | SS_RB_Identity | RB identity (RB3 or RB4) |
| data           | PDU            |                          |
|                |                |                          |

**Detailed Comments:** 

# **ASP Type Definition**

ASP Name: RLC\_TR\_TestDataReq

PCO Type : DSAP

Comments: To request the transmission of unstructered data using transparent mode in the downlink direction. TTCN

writter is requires to send data according to the transport block size allowed.

| Parameter Name | Parameter Type | Comments                 |
|----------------|----------------|--------------------------|
| cellId         | INTEGER        |                          |
| rB_ld          | SS_RB_Identity | RB identity (RB3 or RB4) |
| data           | PDU            |                          |
|                |                |                          |

Detailed Comments:

# **ASP Type Definition**

ASP Name: RRC\_DataInd (RRC-DATA-IND)

PCO Type : Dc\_SAP

Comments: The ASP is used to indicate the receipt of the NAS PDU message using acknowledged operation (NAS <-

RRC).

| Parameter Name      | Parameter Type       | Comments   |
|---------------------|----------------------|--|
| cellid              | INTEGER              | Cell Id  |
| rB_ld               | SS_RB_Identity       | RB identity (RB3 or RB4)                           |
| ch                  | LogicChGERAN         | Logical channel (used for interworking with GERAN) |
| sapId               | SapId                | RRC SAP identifier (SAP0)                          |
| cN_Domain           | SS_CN_DomainIdentity | CN domain identity                                 |
| start               | START_Value          | Mandatory in INITIAL DIRECT TRANSFER               |
| msg                 | PDU                  | NAS PDU  |
| Detailed Comments : | •                    | ·  |

# **ASP Type Definition**

ASP Name: RRC\_DataReq PCO Type : Dc\_SAP

Comments: The ASP is used to request the transmission of the NAS PDU message using acknowledged operation (NAS

-> RRC).

| Parameter Name     | Parameter Type       | Comments   |
|--------------------|----------------------|--|
| cellId             | INTEGER              |  |
| rB_ld              | SS_RB_Identity       | RB identity (RB3 or RB4)                           |
| ch                 | LogicChGERAN         | Logical channel (used for interworking with GERAN) |
| sapld              | SapId                | RRC SAP identifier (SAP0)                          |
| cN_Domain          | SS_CN_DomainIdentity | CN domain identity                                 |
| msg                | PDU                  | NAS PDU  |
| Detailed Comments: | <u>'</u>             | <u> </u>   |

Detailed Comments :

# **ASN.1 ASP Type Definition**

ASP Name: CRLC\_SetRRC\_MessageSN\_REQ

PCO Type : CSAP

Comments: To request the SS to set the RRC message sequence number in COUNT-I to the value specified in this ASP.

The ASP is used to initialise SS RRC

#### **Type Definition**

```
SEQUENCE
cellid INTEGER(-1..63),
routingInfo RoutingInfo,
count_I_LSB_UL RRC_SequenceNumber OPTIONAL,
count_I_LSB_DL RRC_SequenceNumber OPTIONAL
```

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CRLC\_SetRRC\_MessageSN\_CNF

PCO Type : CSAP

Comments: To confirm the RRC message sequence number setting request

# **Type Definition**

## **SEQUENCE**

cellid INTEGER(-1..63), routingInfo RoutingInfo

ASP Name: CRLC\_RRC\_MessageSN\_REQ

PCO Type : CSAP

Comments: To request the SS to return the values in COUNT-I for sending the next DL RRC message or for receiving

the next UL RRC message on the concerned SRB.

#### **Type Definition**

```
SEQUENCE
```

cellId INTEGER(-1..63), routingInfo RoutingInfo

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CRLC\_RRC\_MessageSN\_CNF

PCO Type : CSAP

Comments: To return the counter I value (HFN and RRC message sequence number) for sending the next DL RRC

message or for receiving the next UL RRC message on the concerned SRB.

COUNT\_I\_MSB is the 28 MSB of the COUNT-I (HFN)

#### **Type Definition**

# SEQUENCE

{
 cellId INTEGER(-1..63),
 routingInfo RoutingInfo,
 count\_I\_MSB\_UL COUNT\_I\_MSB,
 count\_I\_LSB\_UL RRC\_SequenceNumber,
 count\_I\_MSB\_DL COUNT\_I\_MSB,
 count\_I\_LSB\_DL RRC\_SequenceNumber

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CMAC\_Ciphering\_Activate\_CNF

PCO Type : CSAP

Comments: To confirm to activate or inactivate the ciphering

# **Type Definition**

SEQUENCE {

cellId INTEGER (-1..63), routingInfo RoutingInfo

ASP Name: CMAC\_Ciphering\_Activate\_REQ

PCO Type : CSAP

Comments: To request to start or, restart or stop downlink ciphering or uplink deciphering. The physicalChannelIdentity

of DPCH applies to routingInfo.Do not increment HFN part of COUNT-C if the value of

incrementCOUNT\_C\_Ind is "NotIncr".

#### Type Definition

```
SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    ratType RatType,
    cn_DomainIdentity CN_DomainIdentity,
    cipheringModeInfo CipheringModeInfo,
    incHFN Increment_Mode
```

#### **Detailed Comments:**

# **ASN.1 ASP Type Definition**

ASP Name: CMAC\_Config\_CNF

PCO Type : CSAP

Comments: For MAC emulator to report that a previous attempt to setup, reconfigure or release a logical channel is

successful.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (-1..63),
    routingInfo RoutingInfo
```

#### **Detailed Comments:**

# **ASN.1 ASP Type Definition**

ASP Name: CMAC\_Config\_REQ

PCO Type : CSAP

Comments: To request to configure MAC entity. Setup is used for creation of the MAC instances or the MAC resources.

Release is used for free the all MAC resources. The reconfiguration is to change the MAC parameters, it is

not the MAC modification.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (-1..63),
    routingInfo RoutingInfo,
    ratType RatType,
    configMessage CHOICE {
        setup CmacConfigReq,
        reconfigure CmacConfigReq,
        release NULL
    }
```

```
ASP Name: CMAC_PAGING_Config_CNF
PCO Type: CSAP
Comments: To confirm to setup the Paging message

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo
}

Detailed Comments:
```

```
ASN.1 ASP Type Definition

ASP Name : CMAC_PAGING_Config_REQ
PCO Type : CSAP
Comments : To request MAC layer to send the Paging message on the specified configuration.

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo,
    ratType RatType,
    configMessage CmacPagingConfigReq
}

Detailed Comments :
```

```
ASN.1 ASP Type Definition

ASP Name: CMAC_SYSINFO_Config_CNF
PCO Type: CSAP
Comments: To confirm to setup the BCCH message to MAC layer

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo
}
Detailed Comments:
```

ASP Name: CMAC\_SYSINFO\_Config\_REQ

PCO Type : CSAP

Comments: To request MAC layer to send the BCCH message on the specified configuration.

#### **Type Definition**

SEQUENCE {
cellId INTEGER (0..63),
routingInfo RoutingInfo,

ratType RatType,

configMessage CmacSysinfoConfigReq

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CMAC\_SecurityMode\_Config\_CNF

PCO Type : CSAP

Comments: To confirm to configure the MAC security mode

#### Type Definition

SEQUENCE {

cellid INTEGER (-1..63)

}

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

**ASP Name:** CMAC\_SecurityMode\_Config\_REQ

PCO Type : CSAP

Comments: To request to configure the MAC security mode

If there are several CMAC\_Ciphering\_Activate\_REQ follow this ASP, the SS shall take a serial of specified

actions on the same contents in this ASP at the activation time indicated in each

CMAC\_Ciphering\_Activate\_REQ.

#### **Type Definition**

SEQUENCE {

cellId INTEGER (-1..63), macCipheringInfo SecurityInfo

# ASN.1 ASP Type Definition ASP Name : CPHY\_Cell\_Config\_CNF PCO Type : CSAP Comments : To confirm to setup the cell parameter Type Definition SEQUENCE { cellId INTEGER (0..63) } Detailed Comments :

# **ASN.1 ASP Type Definition**

ASP Name: CPHY\_Cell\_Config\_REQ

PCO Type : CSAP

**Comments:** To request to setup the cell parameter.

The unit of tcell is chip; the unit of sfnOffset is frame number; the primary scambling code number of the cell

is 16\*primaryScramblingCode\_SS; the unit of dLTxAttenuationLevel is dB.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (0..63),
    tcell INTEGER(0..38399),
    sfnOffset INTEGER (0 .. 4095 ),
    frequencyInfo FrequencyInfo,
    primaryScramblingCode_SS INTEGER (0..511),
    cellTxPowerLevel CellTxPowerLevel,
    dLTxAttenuationLevel INTEGER(0..30)
```

#### **Detailed Comments:**

```
ASN.1 ASP Type Definition

ASP Name: CPHY_Cell_Release_CNF
PCO Type: CSAP
Comments: The confirmation to the CPHY_Cell_Release_Req

Type Definition

SEQUENCE {
    soft_Reset BOOLEAN,
    cell_ID_List SEQUENCE (SIZE (1..8)) OF INTEGER(0..63) — cell IDs
```

ASP Name: CPHY\_Cell\_Release\_REQ

PCO Type : CSAP

Comments: 1. This Primitive with "Soft\_Reset" flag ON gives a common known starting point/state of SS for a test

case. The SS performs the following whenever it receives this primitive with "Soft\_Reset" flag ON:Releases

all configured Channels and cells (if any) irrespective of Cell ID list IE.

2. Releases the associated Memory Buffers (if any).

3. Cancels all active timers (if any) With "Soft\_Reset" flag OFF:

1. Releases cells listed in IE Cell\_ID\_List and associated configured Channels (if any)

2. Releases the Memory Buffers(if any) associated with Cells listed in IE Cell\_ID\_List

3. Cancels all active timers (if any) associated with Cells listed in IE Cell\_ID\_List.

#### **Type Definition**

```
SEQUENCE {
    soft_Reset BOOLEAN,
    cell_ID_List SEQUENCE (SIZE (1..8)) OF INTEGER(0..63) -- cell IDs
}
```

#### **Detailed Comments:**

# **ASN.1 ASP Type Definition**

ASP Name: CPHY\_Frame\_Number\_CNF

PCO Type : CSAP

Comments: To return the requested connection frame number. The routingInfo indicates a physical channel.

#### **Type Definition**

SEQUENCE{

cellId INTEGER(0..63), routingInfo RoutingInfo,

frameNumber INTEGER (0..255)

}

#### **Detailed Comments:**

#### **ASN.1 ASP Type Definition**

ASP Name: CPHY\_Frame\_Number\_REQ

PCO Type : CSAP

Comments: To request the physical layer to return a connection frame number on which the next message can be sent

at the specified PCO on the specified logical channel. The return frame number shall leave time from current frame number in order to leave some execution time for TTCN preparing next message. The routingInfo

indicates a physical channel

# **Type Definition**

SEQUENCE{

cellid INTEGER(0..63), routingInfo RoutingInfo

}

```
ASP Name: CPHY_Ini_CNF
PCO Type: CSAP
Comments: Confirm the test initialisation

Type Definition

SEQUENCE
{
    confirmation NULL
}

Detailed Comments:
```

ASP Name: CPHY\_Ini\_REQ
PCO Type: CSAP
Comments: Request to initialise the test

Type Definition

ENUMERATED {
 defaultRadioEnvironment(0),
 nonDefaultMultiCell(1)
}

Detailed Comments:

ASP Name: CPHY\_Out\_of\_Sync\_IND
PCO Type: CSAP
Comments: To report that the physical channel synchronization (in FDD mode, sync with uplink DPCCH) was lost as detected by the SS receiver.

Type Definition

SEQUENCE {
 cellId INTEGER (0..63),
 routingInfo RoutingInfo
}

Detailed Comments:

ASN.1 ASP Type Definition

ASP Name: CPHY\_RL\_Modify\_CNF
PCO Type: CSAP
Comments: To confirm to modify the Radio Link

Type Definition

SEQUENCE {
 cellId INTEGER (0..63),
 routingInfo RoutingInfo
}

Detailed Comments:

ASP Name: CPHY\_RL\_Modify\_REQ

PCO Type : CSAP

Comments: To request to modify the Radio Link

HardHandover (PhysicalChannelReconfig)

ChannelisationCodeChange

FrequencyChange

PhysicalChannelModifyForTrCHReconfig CompressedMode( PhysicalChannelReconfig)

Re\_Synchronized HardHandover

Softhandover

#### **Type Definition**

```
SEQUENCE {
 cellid INTEGER (0..63),
 routingInfo RoutingInfo,
 ratType RatType,
 modifyMessage CphyRIModifyReq
```

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CPHY\_RL\_Release\_CNF

PCO Type : CSAP

Comments: PHY emulator confirms that a specified physical channel has been released.

# **Type Definition**

SEQUENCE {

cellid INTEGER (0..63), routingInfo RoutingInfo

**Detailed Comments:** 

# **ASN.1 ASP Type Definition**

ASP Name: CPHY\_RL\_Release\_REQ

PCO Type : CSAP

Comments: To request to release the Radio Link

#### **Type Definition**

SEQUENCE {

cellid INTEGER (0..63), routingInfo RoutingInfo

```
ASP Name: CPHY_RL_Setup_CNF
PCO Type: CSAP
Comments: To confirm to setup the Radio Link

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo
}

Detailed Comments:
```

```
ASN.1 ASP Type Definition

ASP Name : CPHY_RL_Setup_REQ
PCO Type : CSAP
Comments : To request to setup the associated transport channels and the Radio Link itself.

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo,
    ratType RatType,
    setupMessage CphyRlSetupReq
}

Detailed Comments :
```

```
ASN.1 ASP Type Definition

ASP Name: CPHY_Sync_IND
PCO Type: CSAP
Comments: To indicate that physical channel synchronization (in FDD mode, sync with DPCCH) has been achieved.

Type Definition

SEQUENCE{
    cellId INTEGER (0..63),
    routingInfo RoutingInfo
}

Detailed Comments:
```

```
ASP Name: CPHY_TrCH_Config_CNF
PCO Type: CSAP
Comments: To confirm to configure the transport channel

Type Definition

SEQUENCE {
    cellId INTEGER (0..63),
    routingInfo RoutingInfo
}

Detailed Comments:
```

```
ASN.1 ASP Type Definition

ASP Name : CPHY_TrCH_Config_REQ
PCO Type : CSAP
Comments : To request to configure the transport channel

Type Definition

SEQUENCE {
    cellId INTEGER(0..63),
    routingInfo RoutingInfo,
    ratType RatType,
    trchConfigType TrChConfigType,
    configMessage CphyTrchConfigReq
}

Detailed Comments :
```

ASN.1 ASP Type Definition

ASP Name: CPHY\_TrCH\_Release\_CNF
PCO Type: CSAP
Comments: To confirm to release tthe Radio Link

Type Definition

SEQUENCE {
 cellId INTEGER (0..63),
 routingInfo RoutingInfo
}

Detailed Comments:

ASN.1 ASP Type Definition

ASP Name : CPHY\_TrCH\_Release\_REQ
PCO Type : CSAP
Comments : To request to release the Radio Link

Type Definition

SEQUENCE {
 cellId INTEGER (0..63),
 routingInfo RoutingInfo,
 trchConfigType TrChConfigType
}

Detailed Comments :

ASN.1 ASP Type Definition

ASP Name: CRLC\_Ciphering\_Activate\_CNF
PCO Type: CSAP
Comments: To confirm to activate or inactivate the ciphering

Type Definition

SEQUENCE {
cellId INTEGER (-1..63)}

Detailed Comments:

### **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Ciphering\_Activate\_REQ

PCO Type : CSAP

Comments: To request to start, restart or stop downlink ciphering or uplink deciphering. The RB-identity applied to

routingInfo indicates the SRB being not suspended during the execution of the ciphering mode command. Each call of the ASP includes one RLC SN in rb\_DL\_CiphActivationTimeInfo for the corresponding

rb-identity.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (-1..63),
    ratType RatType,
    cn_DomainIdentity CN_DomainIdentity,
    ciphActivationInfo CiphActivationInfo,
    incHFN RLC_IncMode
```

#### **Detailed Comments:**

# **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Config\_CNF

PCO Type : CSAP

Comments: For RLC emulator to comfirm that a previous attempt to establish, reconfigure or release a radio bearer has

been successful

#### **Type Definition**

SEQUENCE {
 cellId INTEGER (-1..63),
 routingInfo RoutingInfo
}

**Detailed Comments:** 

### **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Config\_REQ

PCO Type : CSAP

Comments: To request to setup, reconfigure or release RLC entity

#### **Type Definition**

SEQUENCE {

cellId INTEGER (-1..63), routingInfo RoutingInfo, ratType RatType, configMessage CrlcConfigReq

# ASN.1 ASP Type Definition ASP Name: CRLC\_Integrity\_Activate\_CNF PCO Type: CSAP Comments: To confirm to activate or inactivate the integrity protection Type Definition SEQUENCE { cellId INTEGER (-1..63) }

**Detailed Comments:** 

## **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Integrity\_Activate\_REQ

PCO Type : CSAP

Comments: To request to start or to modify the downlink or uplink integrity protection. The ASP shall be called before

the sending of SECURITY MODE COMMAND. It activates the integrity on all SRBs in DL. The ASP shall

not be called if the integrity shall be switched off in the test case.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (-1..63),
    cn_DomainIdentity CN_DomainIdentity,
    integrityActivationInfo IntegrityActivationInfo
```

**Detailed Comments:** 

## **ASN.1 ASP Type Definition**

**ASP Name:** CRLC\_Integrity\_Failure\_IND

PCO Type : CSAP

Comments: RLC emulator reports the occurrences of a failure in integrity protection, i.e. reception of an

integrity-protected RLC AM/UM SDU containing a non-matching X-MAC value compared to the desired.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    failureCause ENUMERATED { codeNotMatched(0) }
}
```

```
ASP Name: CRLC_Resume_CNF
PCO Type: CSAP
Comments: To confirm the resume request

Type Definition

SEQUENCE {
    cellId INTEGER (-1..63),
    routingInfo RoutingInfo
}

Detailed Comments:
```

ASP. 1 ASP Type Definition

ASP Name: CRLC\_Resume\_REQ
PCO Type: CSAP
Comments:

Type Definition

SEQUENCE {
 cellId INTEGER (-1..63),
 routingInfo RoutingInfo
}

Detailed Comments:

ASN.1 ASP Type Definition

ASP Name : CRLC\_SecurityMode\_Config\_CNF
PCO Type : CSAP
Comments : To confirm to configure the ciphering

Type Definition

SEQUENCE {
 cellId INTEGER (-1..63)
}
Detailed Comments :

### **ASN.1 ASP Type Definition**

ASP Name: CRLC\_SequenceNumber\_CNF

PCO Type : CSAP

Comments: To return the requested counter sequence number to which the next DL PDU to be sent or the expected UL

PDU to be received.

#### **Type Definition**

```
SEQUENCE {
    cellId INTEGER (-1..63),
    routingInfo RoutingInfo,
    count_C_MSB_UL COUNT_C_MSB,
    count_C_LSB_UL RLC_SequenceNumber,
    count_C_MSB_DL COUNT_C_MSB,
    count_C_LSB_DL RLC_SequenceNumber
```

#### **Detailed Comments:**

### **ASN.1 ASP Type Definition**

**ASP Name**: CRLC\_SequenceNumber\_REQ

PCO Type : CSAP

Comments: To request the RLC layer to return current counter sequence numbers to which the next DL PDU to be sent

or the expected UL PDU to be received.

#### **Type Definition**

```
SEQUENCE {
  cellId INTEGER (-1..63),
  routingInfo RoutingInfo
```

**Detailed Comments:** 

## **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Suspend\_CNF

PCO Type : CSAP

Comments: To confirm the suspension of data transmission. The parameter vt indicates either the value of the Send

State Variable VT(S) for AM, or the value of Data State Variable VT(US) for UM.

#### **Type Definition**

SEQUENCE {

cellid INTEGER (-1..63), routingInfo RoutingInfo, vt RLC\_SequenceNumber

## **ASN.1 ASP Type Definition**

ASP Name: CRLC\_Suspend\_REQ

PCO Type : CSAP

 $\textbf{Comments}: \ \text{To request the suspension of data transmission. The parameter n indicates that an RLC entity will not send a limit of the context of the$ 

PDU with "Sequence Number">=VT(S)+N for AM and "Sequence Number">=VT(US)+N for UM, where N is

a non-negative integer

#### **Type Definition**

```
SEQUENCE {
  cellId INTEGER (-1..63),
  routingInfo RoutingInfo,
  n RLC_SequenceNumber
}
```

**Detailed Comments:** 

## **ASN.1 ASP Type Definition**

ASP Name: RLC\_AM\_DATA\_CNF

PCO Type : DSAP Comments :

#### **Type Definition**

```
SEQUENCE {
  cellId INTEGER(-1..63),
  routingInfo RoutingInfo,
  mui Mui
```

}

**Detailed Comments:** 

## **ASN.1 ASP Type Definition**

ASP Name: RLC\_AM\_DATA\_IND

PCO Type : DSAP

Comments: To indicate to receive DATA using ackowledged mode

## **Type Definition**

```
SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    integrityResult IntegrityResult ,
    aM_message CHOICE {
        uL_DCCH_Message UL_DCCH_Message,
        uL_CCCH_Message UL_SHCCH_Message
}
```

## **ASN.1 ASP Type Definition** ASP Name: RLC\_AM\_DATA\_REQ PCO Type : DSAP Comments: To request to transmit DATA using ackowledged mode **Type Definition** SEQUENCE { cellId INTEGER(-1..63), routingInfo RoutingInfo, confirmationRequest AmConfirmationRequest, aM\_message CHOICE { dL\_DCCH\_Message DL\_DCCH\_Message, dL\_CCCH\_Message DL\_CCCH\_Message, pCCH\_Message PCCH\_Message, dL\_SHCCH\_Message DL\_SHCCH\_Message, bCCH\_FACH\_Message BCCH\_FACH\_Message, bCCH\_BCH\_Message BCCH\_BCH\_Message, invalid\_dL\_DCCH\_Message Invalid\_DL\_DCCH\_Message, invalid\_dL\_CCCH\_Message Invalid\_DL\_CCCH\_Message, invalid\_dL\_SHCCH\_Message Invalid\_DL\_SHCCH\_Message

```
ASN.1 ASP Type Definition

ASP Name: RLC_TR_DATA_IND
PCO Type: DSAP
Comments: To indicate to receivet DATA using transparent mode

Type Definition

SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    tM_message CHOICE {
        uL_DCCH_Message UL_DCCH_Message,
        uL_CCCH_Message UL_CCCH_Message,
        uL_SHCCH_Message UL_SHCCH_Message
    }
}
Detailed Comments:
```

## **ASN.1 ASP Type Definition** ASP Name: RLC\_TR\_DATA\_REQ PCO Type : DSAP Comments: To request to transmit DATA using transparent mode **Type Definition** SEQUENCE { cellId INTEGER(-1..63), routingInfo RoutingInfo, tM\_message CHOICE { dL\_DCCH\_Message DL\_DCCH\_Message, dL\_CCCH\_Message DL\_CCCH\_Message, pCCH\_Message PCCH\_Message, dL\_SHCCH\_Message DL\_SHCCH\_Message, bCCH\_FACH\_Message BCCH\_FACH\_Message, bCCH\_BCH\_Message BCCH\_BCH\_Message, invalid\_dL\_DCCH\_Message Invalid\_DL\_DCCH\_Message, invalid\_dL\_CCCH\_Message Invalid\_DL\_CCCH\_Message, invalid\_dL\_SHCCH\_Message Invalid\_DL\_SHCCH\_Message

```
ASP Name: RLC_UM_DATA_IND
PCO Type: DSAP
Comments: To indicate to receivet DATA using unacknowledged mode

Type Definition

SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    integrityResult IntegrityResult,
    uM_message CHOICE {
    uL_DCCH_Message UL_DCCH_Message,
    uL_CCCH_Message UL_SHCCH_Message,
    uL_SHCCH_Message UL_SHCCH_Message
}

Detailed Comments:
```

### **ASN.1 ASP Type Definition**

ASP Name: RLC\_UM\_DATA\_REQ

PCO Type : DSAP

Comments: To request to transmit DATA using unacknowledged mode

### **Type Definition**

```
SEQUENCE {
    cellId INTEGER(-1..63),
    routingInfo RoutingInfo,
    uM_message CHOICE {
        dL_DCCH_Message DL_DCCH_Message,
        dL_CCCH_Message DL_CCCH_Message,
        pCCH_Message PCCH_Message,
        pCH_Message DL_SHCCH_Message,
        bCCH_FACH_Message BCCH_FACH_Message,
        bCCH_BCH_Message BCCH_BCH_Message,
        invalid_dL_DCCH_Message Invalid_DL_DCCH_Message,
        invalid_dL_CCCH_Message Invalid_DL_CCCH_Message,
        invalid_dL_SHCCH_Message Invalid_DL_SHCCH_Message
    },
    specialLI BOOLEAN
}
```

PDU Name : AMD\_PDU
PCO Type : DSAP
Encoding Rule Name :

Encoding Rule Name: Encoding Variation:

Comments : Acknowledged mode RLC PDU with 7 bit length indicators. Ref 3G TS 25.322 clause 9.2.1.4

| Field Name        | Field Type            | Field Encoding | Comments |
|-------------------|-----------------------|----------------|----------|
| dcField           | DC_Field              |                | 1        |
| seqNum            | AM_SeqNum             |                | 2        |
| pollingBit        | PollingBit            |                | 3        |
| headerExt         | HeaderExt             |                | 4        |
| lenInds           | LenInds               |                | 5        |
| data              | AM_Data               |                | 6        |
| piggybackedStatus | PiggyBackedSTATUS_PDU |                | 7        |
| padding           | Padding               |                | 8        |

**Detailed Comments**: 1. Data / Control field. Always tsc\_DC\_AMDPDU for an AMD\_PDU.

2. The sequence number for the PDU. Generally this field contains the value INT\_TO\_BIT( p\_SN, tsc\_AM\_SN\_Size ), where p\_SN is a parameter containing the

current AM SN.

- 3. The pollingBit field may take on the values tsc\_P\_Poll, or tsc\_P\_NoPoll.
- If the lenInds field is present, the headerExt field shall be tsc\_HE\_LI\_AndE\_Bit.
   Otherwise, the headerExt field shall be tsc\_HE\_Data.
- The length indicator group for the PDU. If this field present, this must be indicated by the headerExt field.
- The data field contains the data to be sent, or the data expected to be received. Usually this data is created by using either ts\_GetRxAM\_PRBS, or ts\_GetTxAM\_PRBS.
- 7. The piggybackedStatus field is used to transmit or receive a piggybacked STATUS PDU within an RLC PDU. It is the callers responsibility to ensure that there is an LI present indicating that the piggybacked STATUS PDU is present
- 8. The padding field must be present if the size of the LI group + the data size + the optional piggybacked status PDU is less than the current PDU size.

PDU Name : PiggyBackedSTATUS\_PDU

PCO Type : DSAP

Encoding Rule Name: Encoding Variation:

**Comments**: A piggybacked STATUS PDU within an AMD PDU. This type is identical to the STATUS PDU,

except the D/C field is replaced with a reserved bit. Ref 3G TS 25.322 clause 9.2.1.6. If padding is required, the padding field in the PDU containing this piggy-backed STATUS PDU should be

used.

| Field Name     | Field Type   | Field Encoding | Comments                        |
|----------------|--------------|----------------|---------------------------------|
| r              | BITSTRING[1] |                | Reserved for future extensions. |
| type           | CtrlPDU_Type |                | Always<br>tsc_PDU_TypeStatus    |
| superFields    | SuperFields  |                |                                 |
| superFieldsRec | HEXSTRING    |                |                                 |

**Detailed Comments:** 

## **PDU Type Definition**

PDU Name : RESET\_PDU
PCO Type : DSAP

Encoding Rule Name : Encoding Variation :

Comments : A RESET, or RESET Acknowledge PDU. Ref 3G TS 25.322 clause 9.2.1.7.

| Field Name | Field Type   | Field Encoding | Comments |
|------------|--------------|----------------|----------|
| dC_Field   | DC_Field     |                | 1        |
| type       | CtrlPDU_Type |                | 2        |
| rsn        | RSN          |                | 3        |
| reserved   | BITSTRING[3] |                | 4        |
| hfni       | HFNI         |                | 5        |
| padding    | Padding      |                | 6        |

**Detailed Comments**: 1. Data / Control field. Always tsc\_DC\_ControlPDU

2. tsc\_PDU\_TypeReset or tsc\_PDU\_TypeResetAck

3. Reset sequence number

4. Reserved for future extensions. Always '000'B. Ref 3G TS 25.322 clause

9.2.2.6

5. Hyper frame number indicator

6. Must be present to ensure that the total size of this PDU is exactly equal

to the current PDU size.

PDU Name : UMD\_PDU
PCO Type : DSAP

Encoding Rule Name: Encoding Variation:

Comments : Unacknowledged mode RLC PDU. Ref 3G TS 25.322 clause 9.2.1.3

Split into 2 parts to allow isolation of the padding characters

| Field Name  | Field Type  | Field Encoding | Comments |
|-------------|-------------|----------------|----------|
| uMD_PDU_msg | UMD_PDU_MSG |                | 1 – 4    |
| padding     | Padding     |                | 5        |

**Detailed Comments**: 1. The sequence number for the PDU. Generally this field contains the value

INT\_TO\_BIT( p\_SN, tsc\_UM\_SN\_Size ), where p\_SN is a parameter containing the

current UM SN.

2. If the lenInds field is present, the eBit field shall be tsc\_E\_LI\_AndE\_Bit. Otherwise, the eBit field shall be tsc\_E\_Data.

otherwice, the oble held chair be too\_t\_batta.

3. The length indicator group for the PDU. If this field present, this must be

indicated by the eBit field.

4. The data field contains the data to be sent, or the data expected to be received. Usually this data is created by using either ts\_GetRxUM\_PRBS, or

ts\_GetTxUM\_PRBS.

5. The padding field must be present if the size of the LI group + the data  $\frac{1}{2}$ 

size is less than the current payload size.

### **PDU Type Definition**

PDU Name : AUTHENTICATION\_AND\_CIPHERING\_FAILURE

PCO Type : Dc\_SAP

**Encoding Rule Name:** Encoding Variation:

Comments: 3GPP 24.008 V3.6.0 clause 9.4.10a (GMM message)

| Field Name               | Field Type                      | Field Encoding | Comments                                    |
|--------------------------|---------------------------------|----------------|---|
| skipIndicator            | SkipIndicator                   |                | Skip Indicator<br>M<br>BITSTRING [4]        |
| gMMProtocolDiscriminator | ProtocolDiscriminator           |                | GMM Protocol Discriminator  M BITSTRING [4] |
| msgType                  | MsgType                         |                | '0001 1100'B<br>M<br>BITSTRING [8]          |
| gmmCause                 | RejCau                          |                | M<br>1 octet                                |
| authFailurePar           | AuthenticationFailureParame ter |                | O<br>TLV, 16 octets                         |
| Detailed Comments :      |                                 |                |   |

PDU Name : ACTIVATEPDPCONTEXTREQUESTul

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : Activate PDP Context Request

ue -> n

3GPP 24.008 clause, 9.5.1

| Field Name               | Field Type            | Field Encoding | Comments   |
|--------------------------|-----------------------|----------------|--|
| ti                       | ТІ                    |                | transaction identifier M BITSTRING [4]                             |
| sM_ProtocolDiscriminator | ProtocolDiscriminator |                | protocol discriminator<br>M<br>BITSTRING [4]                       |
| msgType                  | MsgType               |                | message type M<br>BITSTRING [8]                                    |
| requestedNSAPI           | NSAPI_v               |                | Network service access<br>point identifier<br>M V<br>BITSTRING [8] |
| requestedLLC_SAPI        | LLC_SAPI_v            |                | LLC service access point identifier M V BITSTRING [8]              |
| requestedQoS             | QualityOfService_lv   |                | Quality of service<br>M LV<br>OCTETSTRING [13–15]                  |
| pDP_Address              | PktDataProtoAddr_lv   |                | Packet data protocol<br>address<br>M LV<br>OCTETSTRING [3–19]      |
| accessPtName             | AccessPtName          |                | Access point name O TLV OCTETSTRING [3–102]                        |
| protocolConfOpts         | ProtoCfgOpt           |                | Protocol configuration options O TLV OCTETSTRING [3–253]           |

PDU Name : ACTIVATERBTESTMODE

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : ACTIVATE RB TEST MODE n -> ue 3G TS 34.109 V3.0.0 cl. 6.6

| Skip Indicator M BITSTRING                |
|---|
| [4]                                       |
| TC Protocol Discriminator M BITSTRING [4] |
| Message Type M BITSTRING<br>[8]           |
|   |

**Detailed Comments:** 

**PDU Type Definition** 

PDU Name : ACTIVATERBTESTMODECOMPLETE

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : ACTIVATE RB TEST MODE COMPLETE ue -> n 3G TS 34.109 V3.0.0 cl. 6.7

| Field Name              | Field Type            | Field Encoding | Comments                                  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator M BITSTRING [4]            |
| tCProtocolDiscriminator | ProtocolDiscriminator |                | TC Protocol Discriminator M BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type M BITSTRING<br>[8]           |
|                         |                       |                |   |

PDU Name : ATTACHACCEPT

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : 3GPP 24.008 V3.6.0 clause 9.4.2 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments                       |
|--------------------------|-----------------------|----------------|--------------------------------|
| skipIndicator            | SkipIndicator         |                | Skip Indicator                 |
|                          |                       |                | M<br>BITSTRING [4]             |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator     |
|                          |                       |                | M                              |
|                          |                       |                | BITSTRING [4]                  |
| msgType                  | MsgType               |                | Message Type<br>M              |
|                          |                       |                | BITSTRING [8]                  |
| forceToStandby           | ForceToStandby        |                | M                              |
| atta ah Daguit           | Attack Decult         |                | 1/2 octet                      |
| attachResult             | AttachResult          |                | M<br>1/2 octet                 |
| periodicRAupdateTimer    | GPRS_Timer_v          |                | M                              |
|                          |                       |                | 1 octet                        |
| radioPrioTOM8            | RadioPriority2_v      |                | M<br>1/2 octet                 |
| radioPrioSMS             | RadioPriority_v       |                | M                              |
|                          |                       |                | 1/2 octet                      |
| rai                      | RAI_v                 |                | Routing Area Identification  M |
|                          |                       |                | 6 octets                       |
| ptmsiSignature           | PTMSI_Signature       |                | O<br>4 octets                  |
| negReadyTimer            | GPRS_Timer            |                | O                              |
| g. todaye.               |                       |                | 2 octets                       |
| allocatedPTMSI           | GMM_MS_IdentityPTMSI  |                | O<br>7 octets                  |
| msIdentity               | GMM_MS_Identity       |                | O                              |
| moracriticy              | OWW_WO_Identity       |                | 7–10 octets                    |
| gmmCause                 | GMM_Cause             |                | 0                              |
| t3302Value               | GPRS_Timer2           |                | 2 octets<br>O TLV              |
| 10002 value              | Of NO_Timerz          |                | 3 octets                       |
| cellNotification         | CellNotification      |                | 0                              |
| equivalentPLMN           | PLMN_List             |                | 1 octet<br>O                   |
| equivalente Livily       | L FIAIIA FISE         |                | 5–17 octets                    |
| ntwFeatureSupport        | NtwFeatureSupport_tv  |                | O TV                           |
| omoraNuml ist            | EmoraNuml int         |                | 1 octet<br>O TLV               |
| emergNumList             | EmergNumList          |                | 5–50 octets                    |
| Detailed Comments :      | 1                     |                | 1                              |
|                          |                       |                |                                |

PDU Name : ATTACHCOMPLETE

PCO Type : Dc\_SAP

Encoding Rule Name:
Encoding Variation:

Comments : 3GPP 24.008 V3.6.0 clause 9.4.3 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments  |
|--------------------------|-----------------------|----------------|---|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]            |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator<br>M<br>BITSTRING [4] |
| msgType                  | MsgType               |                | '0000 0011'B<br>M<br>BITSTRING [8]              |

**Detailed Comments:** 

**PDU Type Definition** 

PDU Name : ATTACHREJECT

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : 3GPP 24.008 V3.6.0 clause 9.4.4 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments   |
|--------------------------|-----------------------|----------------|--|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                       |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator<br>'1000'<br>M<br>BITSTRING [4] |
| msgType                  | MsgType               |                | Message Type '0000 0100'<br>M<br>BITSTRING [8]             |
| gmmCause                 | RejCau                |                | M<br>1 octet   |
| t3302Value               | GPRS_Timer2           |                | O, TLV<br>3 octets   |

PDU Name : ATTACHREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments: 3GPP 24.008 V3.6.0 clause 9.4.1 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments   |
|--------------------------|-----------------------|----------------|--|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                       |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator<br>'1000'<br>M<br>BITSTRING [4] |
| msgType                  | MsgType               |                | Message Type '0000 0001'<br>M<br>BITSTRING [8]             |
| msNetworkCap             | MS_NetworkCap_lv      |                | MS network capability M 3–9 octets                         |
| gprsCiphKeySeqNo         | CiphKeySeqNum         |                | Ciphering key sequence<br>number<br>M<br>BITSTRING[4]      |
| attachType               | AttachType            |                | Attach Type<br>M<br>BITSTRING [4]                          |
| drxParameter             | DRXparamter           |                | M<br>2 octets  |
| ptmsiORimsi              | MS_Identity_Iv        |                | Mobile Identity M 6–9 octets                               |
| oldRAI                   | RAI_v                 |                | Routing Area Identification M 6 octets                     |
| msRadioAccessCap         | MSRadioAccessCap_lv   |                | M<br>6–52 octets   |
| oldPTMSI_Signature       | PTMSI_Signature       |                | O<br>4 octets  |
| readyTimer               | GPRS_Timer            |                | O<br>2 octets  |
| tmsiStatus               | TMSI_Status           |                | O<br>1 octet   |
| pS_LCS_Capability        | PS_LCS_Capability     |                | O TLV<br>3 octets  |

PDU Name : AUTHENTICATIONANDCIPHERINGREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : 3GPP 24.008 V3.6.0 clause 9.4.9 (GMM message)

| Field Name               | Field Type                  | Field Encoding | Comments   |
|--------------------------|-----------------------------|----------------|--|
| skipIndicator            | SkipIndicator               |                | Skip Indicator<br>M<br>BITSTRING [4]                     |
| gMMProtocolDiscriminator | ProtocolDiscriminator       |                | GMM Protocol Discriminator                               |
| msgType                  | MsgType                     |                | M<br>BITSTRING [4]<br>'0001 0010'B<br>M<br>BITSTRING [8] |
| imeisvReq                | IMEISVRequest               |                | M BITSTRING[4]   |
| ciphAlgorithm            | CiphAlgorithm               |                | Ciphering algorithm M BITSTRING[4]                       |
| acRefNo                  | AC_ReferenceNumber          |                | M<br>BITSTRING [4]                                       |
| forceToStandby           | ForceToStandby              |                | M<br>BITSTRING [4]                                       |
| authRand                 | AuthenticationParamterRAN D |                | O, TV<br>17 octets                                       |
| gprsCiphKeySeqNo         | CiphKeySeqNum_tv            |                | Ciphering key sequence<br>number<br>O, TV, 1             |
| aUTN                     | GMM_AUTN                    |                | Auth. parameter AUTN<br>O, TLV, 18 octets                |

PDU Name : AUTHENTICATIONANDCIPHERINGRESPONSE

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : 3GPP 24.008 V3.6.0 clause 9.4.10 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments   |
|--------------------------|-----------------------|----------------|--|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                     |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator                               |
| msgType                  | MsgType               |                | M<br>BITSTRING [4]<br>'0001 0011'B<br>M<br>BITSTRING [8] |
| spare4                   | B4                    |                |  |
| acRefNo                  | AC_ReferenceNumber    |                | M<br>BITSTRING [4]                                       |
| authRsp                  | AuthRsp_tv            |                | O, TV<br>5 octets  |
| imeisv                   | GMM_MS_Identity       |                | O<br>TLV, 11 octets                                      |
| authRspExt               | AuthRspExt            |                | O<br>TLV, 3–14 octets                                    |
| Detailed Comments :      | •                     | •              | •  |

PDU Name : AUTHENTICATIONFAILURE

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : MM AUTHENTICATION FAILURE ue -> n

3G TS 24.008 V3.4.0 cl. 9.2.3a

| Field Name              | Field Type                      | Field Encoding | Comments   |
|-------------------------|---------------------------------|----------------|--|
| skipIndicator           | SkipIndicator                   |                | Skip Indicator<br>M<br>BITSTRING [4]                           |
| mMProtocolDiscriminator | ProtocolDiscriminator           |                | MM Protocol Discriminator<br>M<br>BITSTRING [4]                |
| msgType                 | MsgType                         |                | Message Type (1)<br>M<br>BITSTRING [8]                         |
| rejCau                  | RejCau                          |                | Reject Cause<br>M<br>BITSTRING [8]                             |
| authFailParam           | AuthenticationFailureParame ter |                | Authentication Failure<br>Paramter<br>O<br>AuthFail (128 bits) |

Detailed Comments: (1) (see 3G TS 24.008 cl. 10.4) In messages sent from the MS,

for core network nodes earlier than R99:

bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number;

for core network nodes of R99 or later:

bits 7 and 8 are reserved for the send sequence number.

PDU Name : AUTHENTICATIONREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

**Comments** : MM AUTHENTICATION REQUEST n -> ms

3G TS 24.008 V3.4.0 cl. 9.2.2

| Field Name              | Field Type            | Field Encoding | Comments   |
|-------------------------|-----------------------|----------------|--|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                   |
| mMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator M BITSTRING [4]              |
| msgType                 | MsgType               |                | Message Type<br>M<br>BITSTRING [8]                     |
| spare4                  | B4                    |                | Spare half octet M BITSTRING [4]                       |
| ciphKeySeqNum           | CiphKeySeqNum         |                | Ciphering Key Sequence<br>Number<br>M<br>BITSTRING [4] |
| rAND                    | MM_RAND               |                | Auth. parameter RAND M BITSTRING [128]                 |
| aUTN                    | AUTN                  |                | Auth. parameter AUTN<br>O<br>AUTN                      |

 $\textbf{Detailed Comments} : (1) \text{ In messages sent from the network bits 7 and 8 are "0" (see 3G TS 24.008 cl. 10.4)} \; .$ 

PDU Name : AUTHENTICATIONRESPONSE

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

**Comments**: MM AUTHENTICATION RESPONSE ue -> n

3G TS 24.008 V3.4.0 cl. 9.2.2

| Field Name              | Field Type            | Field Encoding | Comments   |
|-------------------------|-----------------------|----------------|--|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                         |
| mMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator<br>M<br>BITSTRING [4]              |
| msgType                 | MsgType               |                | Message Type (1)<br>M<br>BITSTRING [8]                       |
| authRsp                 | AuthRsp               |                | Authentication Response M OCTETSTRING [4]                    |
| authRspExt              | AuthRspExt            |                | Authentication Response Extension O AuthRspExt (3–14 octets) |

**Detailed Comments**: (1) (see 3G TS 24.008 cl. 10.4) In messages sent from the MS,

for core network nodes earlier than R99:

bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number;

for core network nodes of R99 or later:

bits 7 and 8 are reserved for the send sequence number.

## **PDU Type Definition**

PDU Name : CLOSEUETESTLOOP

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : CLOSE UE TEST LOOP n -> ue 3G TS 34.109 V3.0.0 cl. 6.2

| Field Type                | Field Encoding   | Comments   |
|---------------------------|--|--|
| SkipIndicator             |  | Skip Indicator M BITSTRING [4]   |
| ProtocolDiscriminator     |  | TC Protocol Discriminator M BITSTRING [4]  |
| MsgType                   |  | Message Type M BITSTRING [8]   |
| UE_TestLoopMode           |  | UE test loop mode M UE_TestLoopMode  |
| UE_TestLoopMode1LB_Set up |  | UE test loop mode 1 LB setup C UE_TestLoopMode1LB_Set up                               |
|                           | SkipIndicator  ProtocolDiscriminator  MsgType  UE_TestLoopMode  UE_TestLoopMode1LB_Set | SkipIndicator  ProtocolDiscriminator  MsgType  UE_TestLoopMode  UE_TestLoopMode1LB_Set |

PDU Name : CLOSEUETESTLOOPCOMPLETE

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

 $\hbox{\bf Comments} \qquad : \ \hbox{\bf CLOSE UE TEST LOOP ue} \ -> n \ 3G \ \hbox{\bf TS} \ 34.109 \ \hbox{\bf V} 3.0.0 \ \ \hbox{\bf cl.} \ 6.3$ 

| Field Name              | Field Type            | Field Encoding | Comments                                  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator M BITSTRING [4]            |
| tCProtocolDiscriminator | ProtocolDiscriminator |                | TC Protocol Discriminator M BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type M BITSTRING<br>[8]           |
|                         |                       |                |   |

**Detailed Comments:** 

## **PDU Type Definition**

PDU Name : DEACTIVATEPDPCONTEXTREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : Deactivate PDP Context Request

n <=> ue 24.008, 9.5.14

| Field Name               | Field Type            | Field Encoding | Comments   |
|--------------------------|-----------------------|----------------|--|
| ti                       | TI                    |                | transaction identifier M BITSTRING [4]                   |
| sM_ProtocolDiscriminator | ProtocolDiscriminator |                | protocol discriminator<br>M<br>BITSTRING [4]             |
| msgType                  | MsgType               |                | message type M<br>BITSTRING [8]                          |
| sM_Cause                 | SM_Cause_v            |                | SM cause<br>M V<br>OCTETSTRING [1]                       |
| tearDwnInd               | TearDwnInd_tv         |                | Tear down indicator O TV BITSTRING [8]                   |
| protocolConfOpts         | ProtoCfgOpt           |                | Protocol configuration options O TLV OCTETSTRING [3–253] |

PDU Name : DEACTIVATERBTESTMODE

PCO Type : Dc\_SAP

**Encoding Rule Name: Encoding Variation**:

: DEACTIVATE RB TEST MODE n -> ue 3G TS 34.109 V3.0.0 cl. 6.8 Comments

| Field Name              | Field Type            | Field Encoding | Comments                                  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator M BITSTRING<br>[4]         |
| tCProtocolDiscriminator | ProtocolDiscriminator |                | TC Protocol Discriminator M BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type M BITSTRING<br>[8]           |
|                         |                       |                |   |

**Detailed Comments:** 

**PDU Type Definition** 

PDU Name : DEACTIVATERBTESTMODECOMPLETE

PCO Type : Dc\_SAP

**Encoding Rule Name: Encoding Variation**:

Comments : DEACTIVATE RB TEST MODE COMPLETE ue -> n 3G TS 34.109 cl. 6.9

| Field Name              | Field Type            | Field Encoding | Comments                                  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator M BITSTRING<br>[4]         |
| tCProtocolDiscriminator | ProtocolDiscriminator |                | TC Protocol Discriminator M BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type M BITSTRING<br>[8]           |
| Detailed Comments :     |                       |                |   |

PDU Name : DETACHREQUESTMO

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : 3GPP 24.008 V3.6.0 clause 9.4.5.2 (Mobile originating detach, GMM message)

| Field Name               | Field Type            | Field Encoding | Comments                             |
|--------------------------|-----------------------|----------------|--------------------------------------|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4] |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator           |
|                          |                       |                | M<br>BITSTRING [4]                   |
| msgType                  | MsgType               |                | Message Type<br>M<br>BITSTRING [8]   |
| spare4                   | B4                    |                | M<br>1/2 octet                       |
| detachType               | DetachType            |                | M<br>1/2 octet                       |
| ptmsi                    | GMM_MS_IdentityPTMSI  |                | O<br>TLV                             |
| ptmsiSignature           | PTMSI_Signature_tlv   |                | 0                                    |
| Detailed Comments :      |                       |                |                                      |

PDU Name : LOCATIONUPDATINGACCEPT

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

**Comments** : MM LOCATION UPDATING ACCEPT n -> ms

3G TS 24.008 V3.4.0 cl. 9.2.13

| Field Name              | Field Type            | Field Encoding | Comments                                     |
|-------------------------|-----------------------|----------------|--|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]         |
| mMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator M BITSTRING [4]    |
| msgType                 | MsgType               |                | Message Type (1)<br>M<br>BITSTRING [8]       |
| locAreald               | LocAreald_v           |                | Location Area Id. V M LocAreaId_v (5 octets) |
| mobileId                | MM_MS_Identity        |                | Mobile Identity O MobileId (3–11 octets)     |
| followOnProceed         | FollowOnProceed       |                | Follow on proceed O BITSTRING [8]            |
| cTSPerm                 | CTSPerm               |                | CTS Permission O BITSTRING [8]               |
| equivalentPLMN          | PLMN_List             |                | O<br>17 octets                               |
| emergNumList            | EmergNumList          |                | O TLV<br>5–50 octets                         |

 $\textbf{Detailed Comments} : (1) \ \text{In messages sent from the network bits 7 and 8 are "0" (see 3G TS 24.008 \ \text{cl. } 10.4)} \ .$ 

PDU Name : LOCATIONUPDATINGREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name:
Encoding Variation:

Comments : MM LOCATION UPDATING REQUEST ue -> n

3G TS 24.008 V3.4.0 cl. 9.2.15

| Field Name              | Field Type            | Field Encoding | Comments  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                          |
| mMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator M BITSTRING [4]                     |
| msgType                 | MsgType               |                | Message Type (1)<br>M<br>BITSTRING [8]                        |
| ciphKeySeqNum           | CiphKeySeqNum         |                | Ciphering Key Sequence<br>Number<br>M<br>BITSTRING [4]        |
| locUpdType              | LocUpdType            |                | Location Updating Type M BITSTRING [4]                        |
| locAreald               | LocAreald_v           |                | Location Area Id. V<br>M<br>LocAreaId (5 octets)              |
| mSClsmk1                | MS_Clsmk1             |                | Mobile Station Classmark 1<br>M<br>MSClsmk1 (1 octets)        |
| mobileld                | MS_Identity_lv        |                | Mobile Identity LV<br>M<br>MobileId (2–9 octets)              |
| mSClsmk2                | MS_Clsmk2             |                | Mobile Station Classmark 2<br>TLV<br>O<br>MSClsmk2 (5 octets) |

Detailed Comments: (1) (see 3G TS 24.008 cl. 10.4) In messages sent from the UE,

for core network nodes earlier than R99:

bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number;

for core network nodes of R99 or later:

bits 7 and 8 are reserved for the send sequence number.

PDU Name : OPENUETESTLOOP

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

 $\begin{tabular}{ll} \textbf{Comments} & : OPEN UE TEST LOOP n -> ue 3G TS 34.109 V3.0.0 & cl. 6.4 \\ \end{tabular}$ 

| Skip Indicator M BITSTRING                |
|---|
| [4]                                       |
| TC Protocol Discriminator M BITSTRING [4] |
| Message Type M BITSTRING<br>[8]           |
|   |

**Detailed Comments:** 

**PDU Type Definition** 

PDU Name : OPENUETESTLOOPCOMPLETE

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

**Comments** : OPEN UE TEST LOOP ue -> n 3G TS 34.109 V3.0.0 cl. 6.5

| Field Name              | Field Type            | Field Encoding | Comments                                  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator M BITSTRING [4]            |
| tCProtocolDiscriminator | ProtocolDiscriminator |                | TC Protocol Discriminator M BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type M BITSTRING [8]              |
|                         |                       |                |   |

PDU Name : PAGINGRESPONSE

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

**Comments** : PAGINGRESPONSE ue -> n

GSM 04.18 cl. 9.1.25

| Field Name              | Field Type            | Field Encoding | Comments   |
|-------------------------|-----------------------|----------------|--|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                   |
| rRProtocolDiscriminator | ProtocolDiscriminator |                | RR Protocol Discriminator M BITSTRING [4]              |
| msgType                 | MsgType               |                | Message Type (1)<br>M<br>BITSTRING [8]                 |
| spare4                  | B4                    |                | Spare half octet<br>M<br>BITSTRING [4]                 |
| ciphKeySeqNum           | CiphKeySeqNum         |                | Ciphering Key Sequence<br>Number<br>M<br>BITSTRING [4] |
| mSClsmk2                | MS_Clsmk2_lv          |                | Mobile Station Classmark 2<br>M<br>MSClsmk2 (4 octets) |
| mobileId                | MS_Identity_lv        |                | Mobile Identity LV<br>M<br>MobileId (2–10 octets)      |

 $\textbf{Detailed Comments} \hspace{0.1cm} : \hspace{0.1cm} \textbf{(1) (see 3G TS 24.008 cl. 10.4) In messages sent from the UE,} \\$ 

for core network nodes earlier than R99:

bit 8 shall be set to 0 and bit 7 is reserved for the send sequencenumber;

for core network nodes of R99 or later:

bits 7 and 8 are reserved for the send sequence number.

(2) (see 3G TS 24.008 cl. 4.5.1.3.3) The UE shall respond with the PAGING RESPONSE message defined in GSM 04.18, chapter 9.1.25. For reasons of backward compatibility the paging response

shall use the RR protocol discriminator.

PDU Name : ROUTINGAREAUPDATEREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name : Encoding Variation :

Comments : 3GPP 24.008 V3.6.0 clause 9.4.14 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments  |
|--------------------------|-----------------------|----------------|---|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]              |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator '1000' M BITSTRING [4] |
| msgType                  | MsgType               |                | Message Type '0000 1000'<br>M<br>BITSTRING [8]    |
| gprsCiphKeySeqNo         | CiphKeySeqNum         |                | Ciphering key sequence<br>number<br>M             |
| updateType               | UpdateType_v          |                | BITSTRING[4] Update Type M BITSTRING [4]          |
| oldRAI                   | RAI_v                 |                | Routing Area Identification M 6 octets            |
| msRadioAccessCap         | MSRadioAccessCap_lv   |                | M<br>6–52 octets                                  |
| oldPTMSI_Signature       | PTMSI_Signature       |                | O<br>4 octets                                     |
| readyTimer               | GPRS_Timer            |                | O<br>2 octets                                     |
| drxParameter             | DRXparamter_tv        |                | O, TV<br>3 octets                                 |
| tmsiStatus               | TMSI_Status           |                | O<br>1 octet                                      |
| ptmsi                    | GMM_MS_IdentityPTMSI  |                | O, TLV<br>7 octets                                |
| msnetworkcap             | MS_NetworkCap_tlv     |                | MS network capability O, TLV 4–10 octets          |
| pDP_ContextStatus        | PDP_ContextStatus     |                | O<br>4 octets                                     |
| pS_LCS_Capability        | PS_LCS_Capability     |                | O TLV<br>3 octets                                 |
| Detailed Comments :      |                       |                |   |

Detailed Collillerits .

PDU Name : SERVICEREQUEST

PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

Comments : 3GPP 24.008 V3.6.0 clause 9.4.20 (GMM message)

| Field Name               | Field Type            | Field Encoding | Comments  |
|--------------------------|-----------------------|----------------|---|
| skipIndicator            | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]                  |
| gMMProtocolDiscriminator | ProtocolDiscriminator |                | GMM Protocol Discriminator                            |
|                          |                       |                | M<br>BITSTRING [4]                                    |
| msgType                  | MsgType               |                | Message Type<br>M<br>BITSTRING [8]                    |
| serviceType              | ServiceType_v         |                | Service type<br>M<br>BITSTRING[4]                     |
| ciphKeySeqNo             | CiphKeySeqNum         |                | Ciphering key sequence<br>number<br>M<br>BITSTRING[4] |
| ptmsi                    | MS_Identity_lv        |                | Mobile Identity M 6 octets                            |
| pDP_ContextStatus        | PDP_ContextStatus     |                | O<br>4 octets   |
| Detailed Comments :      |                       |                |   |

PDU Name : SETUPul PCO Type : Dc\_SAP

Encoding Rule Name: Encoding Variation:

**Comments** : CC SETUP n <- ue

3G TS 24.008 cl. 9.3.23.2

| Field Name               | Field Type            | Field Encoding | Comments                                    |
|--------------------------|-----------------------|----------------|---|
| ti                       | TI                    |                | transaction identifier                      |
|                          |                       |                | BITSTRING [4]                               |
| cC_ProtocolDiscriminator | ProtocolDiscriminator |                | CC protocol discriminator M                 |
|                          |                       |                | BITSTRING [4]                               |
| msgType                  | MsgType               |                | message type (1)                            |
| ron o otlo d             | Deposited             |                | BITSTRING [8]                               |
| repeatInd                | RepeatInd             |                | repeat indicator                            |
| bcap1                    | Bcap                  |                | BITSTRING[8] Bearer capability              |
|                          |                       |                | M<br>OCTETSTRING [316]                      |
| bcap2                    | Bcap                  |                | Bearer capability                           |
|                          |                       |                | O<br>OCTETSTRING [316]                      |
| facility                 | Facility              |                | facility O                                  |
| cgps                     | CGPS                  |                | calling party subaddr. O OCTETSTRING [223]  |
| cdpn                     | CDPN                  |                | called party number                         |
|                          |                       |                | OCTETSTRING[343]                            |
| cdps                     | CDPS                  |                | called party subaddr. O OCTETSTRING [223]   |
| llcRepeatInd             | RepeatInd             |                | LLC repeat indicator O OCTETSTRING [1]      |
| llc1                     | LLC                   |                | low layer compatib.1 O<br>OCTETSTRING [218] |
| Ilc2                     | LLC                   |                | low layer compatib.2 O OCTETSTRING [218]    |
| hlcRepeatInd             | RepeatInd             |                | HLC repeat indicator O OCTETSTRING [1]      |
| hlc1                     | HLC                   |                | high layer compat.1 O<br>OCTETSTRING [25]   |
| hlc2                     | HLC                   |                | high layer compat. 2 O OCTETSTRING [25]     |
| userUser                 | UserUser              |                | user-user<br>O                              |
|                          |                       |                | OCTETSTRING [3131]                          |
| sS_VersionInd            | SS_VersionInd         |                | SS version indicator ue -> n                |
|                          |                       |                | O<br>OCTETSTRING [23]                       |
| cLIR_Suppression         | CLIR_Suppression      |                | CLIR suppression C OCTETSTRING[1]           |
| cLIR_Invocation          | CLIR_Invocation       |                | CLIR invocation O OCTETSTRING[1]            |

Continued on next page

| PDU Type Definition      |                 |                |   |  |
|--------------------------|-----------------|----------------|---|--|
| Field Name               | Field Type      | Field Encoding | Comments  |  |
| cC_Capabilities          | CC_Capabilities |                | cc capabilities O OCTETSTRING[3]                      |  |
| facilityCCBS_AdvRecall   | Facility        |                | facility for CCBS<br>(advanced recall alignemet)<br>O |  |
| facilityCCBS_RecallAlign | Facility        |                | facility for CCBS (recall alignement not essential) O |  |
| streamld                 | StreamId        |                | stream identifier O OCTETSTRING[3]                    |  |
| supportedCodecs          | CodecList       |                | supported codecs O OCTETSTRING[5-n]                   |  |

**Detailed Comments**: (1) bits 7 and 8 are 0 and send sequence number for earlier than R99 resp.

a 2bit send sequence number for R99 or later (see 3G TS 24.008 cl. 10.4)

## **PDU Type Definition**

PDU Name : STATUS\_PDU

PCO Type : DSAP

Encoding Rule Name : Encoding Variation :

Comments : An AMD STATUS PDU. Ref 3G TS 25.322 clause 9.2.1.5

| Field Name          | Field Type   | Field Encoding | Comments |
|---------------------|--------------|----------------|----------|
| dC_Field            | DC_Field     |                | 1        |
| type                | CtrlPDU_Type |                | 2        |
| superFieldsTx       | SuperFields  |                | 3        |
| superFieldsAndPadRx | HEXSTRING    |                | 4        |
| paddingTx           | Padding      |                | 5        |

**Detailed Comments**: 1. Always tsc\_DC\_ControlPDU for a STATUS PDU.

2. Always tsc\_PDU\_TypeStatus for a STATUS PDU.

3. The superfields transmitted in the STATUS PDU.

4. The superfields and padding to be received in the STATUS PDU.

5. The padding transmitted must be present to ensure that the total size of this PDU is exactly equal to the current PDU size. It is the callers responsibility to ensure that the superfields are either terminated with a NO\_MORE SUFI, or an ACK SUFI.

PDU Name : TMSIREALLOCATIONCOMPLETE

PCO Type : Dc\_SAP

Encoding Rule Name:
Encoding Variation:

Comments : MM TMSI REALLOCATION COMPLETE ue -> n

3G TS 24.008 V3.4.0 cl. 9.2.18

| Field Name              | Field Type            | Field Encoding | Comments  |
|-------------------------|-----------------------|----------------|---|
| skipIndicator           | SkipIndicator         |                | Skip Indicator<br>M<br>BITSTRING [4]            |
| mMProtocolDiscriminator | ProtocolDiscriminator |                | MM Protocol Discriminator<br>M<br>BITSTRING [4] |
| msgType                 | MsgType               |                | Message Type (1)<br>M<br>BITSTRING [8]          |

Detailed Comments: (1) (see 3G TS 24.008 cl. 10.4) In messages sent from the UE,

for core network nodes earlier than R99:

bit 8 shall be set to 0 and bit 7 is reserved for the send sequence number;

for core network nodes of R99 or later:

bits 7 and 8 are reserved for the send sequence number.

**ASN.1 PDU Type Definition** 

PDU Name : Invalid\_DL\_CCCH\_Message

PCO Type : DSAP

Encoding Rule Name: PER\_Unaligned

Encoding Variation : Comments :

Type Definition

SEQUENCE {

integrityCheckInfo IntegrityCheckInfo OPTIONAL,

message Invalid\_DL\_CCCH\_MsgType

**Detailed Comments:** 

**ASN.1 PDU Type Definition** 

PDU Name : Invalid\_DL\_DCCH\_Message

PCO Type : DSAP

Encoding Rule Name: PER\_Unaligned

Encoding Variation : Comments :

**Type Definition** 

SEQUENCE {

integrityCheckInfo [0] IntegrityCheckInfo OPTIONAL,

message [1] Invalid\_DL\_DCCH\_MsgType

# **ASN.1 PDU Type Definition**

PDU Name : Invalid\_DL\_SHCCH\_Message

PCO Type : DSAP

Encoding Rule Name: PER\_Unaligned

Encoding Variation : Comments :

**Type Definition** 

SEQUENCE {

message Invalid\_DL\_SHCCH\_MsgType

}

|                       |          | ASN.1 PDU Ty          | pe Definitions   | By Reference      |               |          |
|-----------------------|----------|-----------------------|------------------|-------------------|---------------|----------|
| PDU Name              | PCO Type | Type Reference        | Module Identifie | Enc Rule          | Enc Variation | Comments |
| BCCH_BCH_<br>Message  | DSAP     | BCCH-BCH-<br>Message  | Class-definitio  | PER_Unaligne<br>d |               |          |
| BCCH_FACH_<br>Message | DSAP     | BCCH-FACH<br>-Message | Class-definitio  | PER_Unaligne<br>d |               |          |
| DL_CCCH_Me<br>ssage   | DSAP     | DL-CCCH-M<br>essage   | Class-definitio  | PER_Unaligne<br>d |               |          |
| DL_DCCH_Me<br>ssage   | DSAP     | DL-DCCH-M<br>essage   | Class-definitio  | PER_Unaligne<br>d |               |          |
| DL_SHCCH_<br>Message  | DSAP     | DL-SHCCH-<br>Message  | Class-definitio  | PER_Unaligne<br>d |               |          |
| PCCH_Messag<br>e      | DSAP     | PCCH-Messa<br>ge      | Class-definitio  | PER_Unaligne<br>d |               |          |
| UL_CCCH_Me<br>ssage   | DSAP     | UL-CCCH-M<br>essage   | Class-definitio  | PER_Unaligne<br>d |               |          |
| UL_DCCH_Me<br>ssage   | DSAP     | UL-DCCH-M<br>essage   | Class-definitio  | PER_Unaligne<br>d |               |          |
| UL_SHCCH_<br>Message  | DSAP     | UL-SHCCH-<br>Message  | Class-definitio  | PER_Unaligne<br>d |               |          |
| Detailed Comme        | ents :   |                       |                  |                   |               |          |

|            | Alias Definitions  |  |  |  |  |
|------------|--------------------|--|--|--|--|
| Alias Name | Expansion          | Comments   |  |  |  |
| RxAMD      | RLC_TR_TestDataInd | This alias is used to receive an AM DATA PDU. Note that AM PDUs are received using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).  |  |  |  |
| RxReset    | RLC_TR_TestDataInd | This alias is used to receive an AM RESET PDU. Note that AM PDUs are received using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method). |  |  |  |
| RxUMD      | RLC_TR_TestDataInd | This alias is used to receive a UM DATA PDU. Note that UM PDUs are received using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).   |  |  |  |
| TxAMD      | RLC_TR_TestDataReq | This alias is used to transmit an AM DATA PDU. Note that AM PDUs are sent using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).     |  |  |  |
| TxReset    | RLC_TR_TestDataReq | This alias is used to transmit an AM RESET PDU. Note that AM PDUs are sent using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).    |  |  |  |
| TxStatus   | RLC_TR_TestDataReq | This alias is used to transmit an AM STATUS PDU. Note that AM PDUs are sent using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).   |  |  |  |
| TxUMD      | RLC_TR_TestDataReq | This alias is used to transmit a UM DATA PDU. Note that UM PDUs are sent using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method).      |  |  |  |

Continued on next page

#### Continued from previous page

| Alias Definitions   |                    |   |  |
|---------------------|--------------------|---|--|
| Alias Name          | Expansion          | Comments  |  |
| RxStatus            | RLC_TR_TestDataInd | This alias is used to receive an AM STATUS PDU. Note that AM PDUs are received using the Tr PCO, so that the RLC PDU can be specified within the TTCN. This is described in detail in 34.123–3, clause 6.5 (RLC test method). |  |
| Detailed Comments : |                    |   |  |

# III Constraints Part

**Constraint Name** : c\_AM\_DataStruct(p\_data: AM\_Data; p\_filled: BOOLEAN)

Group

Structured Type : AM\_DataStruct

**Derivation Path Encoding Variation:** 

Comments : Data part of a AMD PDU embedded in a structured type.

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| data         | p_data        |                  | 1        |
| filled       | p_filled      |                  | 2        |

Detailed Comments: 1. Data part of a AM PDU

2. Indicator if data part is filled or not.

Note: This structured type is needed to set the data field to the value OMIT. The indicator is thus unused.

#### **Structured Type Constraint Declaration**

**Constraint Name** : c\_LIs1\_7BitLI( p\_LI1: INTEGER )

Group

Structured Type : LenInds

**Derivation Path Encoding Variation:** 

Comments : This constraint is used to send or receive a length indicator group within a

PDU (AM or UM). This constraint is used when there is exactly one 7 bit LI in

the group.

Parameters: p\_LI1:

An integer representing the first 7 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

| Element Name | Element Value                          | Element Encoding | Comments |
|--------------|--|------------------|----------|
| lenInd7_1    | c_LenInd7AndE_Bit( p_LI1, tsc_E_Data ) |                  |          |
| lenInd7_2    | _                                      |                  |          |
| lenInd7_3    | _                                      |                  |          |
| lenInd7_4    | _                                      |                  |          |
| lenInd7_5    | _                                      |                  |          |
| lenInd15_1   | _                                      |                  |          |
| lenInd15_2   | _                                      |                  |          |
| lenInd15_3   | _                                      |                  |          |

Constraint Name : c\_Lls2\_15BitLls( p\_Ll1, p\_Ll2: INTEGER )

Group :

Structured Type : LenInds

Derivation Path : Encoding Variation :

Comments : This constraint is used to send or receive a length indicator group within a

PDU (AM or UM). This constraint is used when there are exactly two 15 bit LIs

in the group.

Parameters: p\_LI1:

An integer representing the first 15 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

p LI2:

An integer representing the second 15 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

| Element Name        | Element Value                                    | Element Encoding | Comments |
|---------------------|--|------------------|----------|
| lenInd7_1           | -  |                  |          |
| lenInd7_2           | _  |                  |          |
| lenInd7_3           | _  |                  |          |
| lenInd7_4           | _  |                  |          |
| lenInd7_5           | _  |                  |          |
| lenInd15_1          | c_LenInd15AndE_Bit(<br>p_LI1, tsc_E_LI_AndE_Bit) |                  |          |
| lenInd15_2          | c_LenInd15AndE_Bit(<br>p_LI2, tsc_E_Data)        |                  |          |
| lenInd15_3          | _  |                  |          |
| Detailed Comments : |  |                  |          |

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.1cm} c\_LIs2\_7BitLIs(\hspace{0.1cm} p\_LI1, \hspace{0.1cm} p\_LI2: \hspace{0.1cm} INTEGER \hspace{0.1cm} )$ 

Group :

Structured Type : LenInds

Derivation Path : Encoding Variation :

Comments : This constraint is used to send or receive a length indicator group within a

PDU (AM or UM). This constraint is used when there are exactly two 7 bit LIs

in the group.

Parameters: p\_LI1:

An integer representing the first 7 bit length indicator. This parameter is used within a call to INT\_TO\_BIT, so a value must be provided.

p LI2:

An integer representing the second 7 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

| Element Name | Element Value                                 | Element Encoding | Comments |
|--------------|---|------------------|----------|
| lenInd7_1    | c_LenInd7AndE_Bit( p_LI1, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_2    | c_LenInd7AndE_Bit( p_LI2, tsc_E_Data )        |                  |          |
| lenInd7_3    | _   |                  |          |
| lenInd7_4    | _   |                  |          |
| lenInd7_5    | _   |                  |          |
| lenInd15_1   | _   |                  |          |
| lenInd15_2   | _   |                  |          |
| lenInd15_3   | _   |                  |          |

Constraint Name : c\_LIs3\_7BitLIs( p\_LI1, p\_LI2, p\_LI3: INTEGER )

Group :

Structured Type : LenInds

Derivation Path : Encoding Variation :

**Comments**: This constraint is used to send or receive a length indicator group within a

PDU (AM or UM). This constraint is used when there are exactly three 7 bit LIs

in the group.

Parameters: p\_LI1:

An integer representing the first 7 bit length indicator. This parameter is used within a call to INT\_TO\_BIT, so a value must be provided.

p\_LI2:

An integer representing the second 7 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

p\_LI3:

An integer representing the third 7 bit length indicator. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided.

| Element Name | Element Value                                 | Element Encoding | Comments |
|--------------|---|------------------|----------|
| lenInd7_1    | c_LenInd7AndE_Bit( p_LI1, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_2    | c_LenInd7AndE_Bit( p_LI2, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_3    | c_LenInd7AndE_Bit( p_LI3, tsc_E_Data )        |                  |          |
| lenInd7_4    | _   |                  |          |
| lenInd7_5    | _   |                  |          |
| lenInd15_1   | _   |                  |          |
| lenInd15_2   | _   |                  |          |
| lenInd15_3   | _   |                  |          |

Constraint Name : c\_LIs5\_7BitLIs( p\_LI: INTEGER )

Group :

Structured Type : LenInds

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a 5 length indicator group within a

PDU (AM or UM). This constraint is used when there are exactly five 7 bit LIs

in the group. These LIs all have the same length value.

Parameters: p\_LI:

An integer representing the first 7 bit length indicators. This parameter is

used within a call to INT\_TO\_BIT, so a value must be provided

| Element Name | Element Value                                    | Element Encoding | Comments |
|--------------|--|------------------|----------|
| lenInd7_1    | c_LenInd7AndE_Bit( 1 * p_LI, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_2    | c_LenInd7AndE_Bit( 2 * p_LI, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_3    | c_LenInd7AndE_Bit( 3 * p_LI, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_4    | c_LenInd7AndE_Bit( 4 * p_LI, tsc_E_LI_AndE_Bit ) |                  |          |
| lenInd7_5    | c_LenInd7AndE_Bit( 5 * p_LI, tsc_E_Data )        |                  |          |
| lenInd15_1   | _  |                  |          |
| lenInd15_2   | _  |                  |          |
| lenInd15_3   | _  |                  |          |

# **Structured Type Constraint Declaration**

Constraint Name : c\_LlsEmpty

Group :

.

Structured Type : LenInds

Derivation Path :

**Encoding Variation:** 

**Comments**: This constraint is used to send or receive an empty length indicator group

within a PDU (AM or UM)

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| lenInd7_1    | _             |                  |          |
| lenInd7_2    | _             |                  |          |
| lenInd7_3    | -             |                  |          |
| lenInd7_4    | -             |                  |          |
| lenInd7_5    | _             |                  |          |
| lenInd15_1   | -             |                  |          |
| lenInd15_2   | _             |                  |          |
| lenInd15_3   | -             |                  |          |

Constraint Name : c\_LenInd15AndE\_Bit( p\_LI15:INTEGER; p\_ExtBit: ExtBit )

Group :

Structured Type : LenInd15AndE\_Bit

Derivation Path : Encoding Variation :

**Comments**: This constraint is used to create a 15 bit length indicator followed by an

extension bit.

Parameters:

p\_LI15: An integer containing the required length indicator.

0 <= p\_LI15 <= 32767

p\_ExtBit: Used to indicate whether the next octet contains a length inidicator and E bit, or data. p\_ExtBit must be either tsc\_LI\_AndE\_Bit or tsc\_E\_Data.

| Element Name | Element Value            | Element Encoding | Comments |
|--------------|--------------------------|------------------|----------|
| lenInd       | INT_TO_BIT( p_LI15, 15 ) |                  |          |
| extBit       | p_ExtBit                 |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_LenInd7AndE\_Bit( p\_LI7:INTEGER; p\_ExtBit: ExtBit )

Group :

Structured Type : LenInd7AndE\_Bit

Derivation Path : Encoding Variation :

**Comments**: This constraint is used to create a 7 bit length indicator followed by an

extension bit.

Parameters:

p\_LI7: An integer containing the required length indicator.

0 <= p\_LI7 <= 127

p\_ExtBit: Used to indicate whether the next octet contains a length inidicator and E bit, or data. p\_ExtBit must be either tsc\_LI\_AndE\_Bit or tsc\_E\_Data.

| Element Name | Element Value          | Element Encoding | Comments |
|--------------|------------------------|------------------|----------|
| lenInd       | INT_TO_BIT( p_LI7, 7 ) |                  |          |
| extBit       | p_ExtBit               |                  |          |
|              |                        |                  |          |

Constraint Name : c\_List1( p\_SN1L1: SNiLiPair )

Group :

Structured Type : SUFI\_List

Derivation Path : Encoding Variation :

**Comments**: A LIST SUFI with a single (SNi, Li) pair to be used within SuperFields

constraints.

Parameters:

p\_SN1L1: The first (SNi, Li) pair to be used in the SUFI.

Padding calculation: 6 half octets.

| Element Name       | Element Value                     | Element Encoding | Comments      |
|--------------------|-----------------------------------|------------------|---------------|
| type               | tsc_SUFI_List                     |                  | 1 half octet  |
| len                | INT_TO_BIT( 1, tsc_LIST_LenSize ) |                  | 1 half octet  |
| sN1L1              | p_SN1L1                           |                  | 4 half octets |
| sN2L2              | _                                 |                  |               |
| sN3L3              | _                                 |                  |               |
| Detailed Comments: |                                   |                  |               |

Detailed Comments:

### **Structured Type Constraint Declaration**

Constraint Name : c\_List1\_InvalidLength( p\_SN1L1: SNiLiPair)

Group :

Structured Type : SUFI\_List

Derivation Path : Encoding Variation :

Comments : A LIST SUFI with one (SNi, Li) pair, but an invalid length field ('0000'B) to

be used within SuperFields constraints to ensure that A LIST SUFI with an

invalid length field is discarded.

Parameters:

p\_SN1L1: The first (SNi, Li) pair to be used in the SUFI.

Padding calculation: 6 half octets.

| Element Name | Element Value | Element Encoding | Comments      |
|--------------|---------------|------------------|---------------|
| type         | tsc_SUFI_List |                  | 1 half octet  |
| len          | '0000'B       |                  | 1 half octet  |
| sN1L1        | p_SN1L1       |                  | 4 half octets |
| sN2L2        | _             |                  |               |
| sN3L3        | _             |                  |               |

Constraint Name : c\_NoMore

Group

Structured Type : SUFI\_NoMore

Derivation Path : Encoding Variation :

**Comments**: A NO MORE SUFI to be used in SuperFields constraints

Padding calculation

1 half octet

| Element Name | Element Value   | Element Encoding | Comments |
|--------------|-----------------|------------------|----------|
| type         | tsc_SUFI_NoMore |                  | 4 bits   |
|              |                 |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_SNiLi( p\_SNi, p\_Li: INTEGER )

Group :

Structured Type : SNiLiPair

Derivation Path : Encoding Variation :

Comments : This constraint is used to represent an ( SNi , Li ) pair within a LIST SUFI.

Parameters: p\_SNi:

An integer representing the sequence number of the first PDU which was not correctly received. This parameter is passed to a call to INT\_TO\_BIT, so a

value must be provided.

p Li:

An integer representing the number of consecutive PDUs not correctly received following PDU with sequence number SNi. This parameter is passed to a call to

INT\_TO\_BIT, so a value must be provided.

| Element Name | Element Value                       | Element Encoding | Comments |
|--------------|-------------------------------------|------------------|----------|
| sNi          | INT_TO_BIT( p_SNi, tsc_AM_SN_Size)  |                  |          |
| li           | INT_TO_BIT( p_Li, tsc_LIST_LiSize ) |                  |          |

Constraint Name : c\_UMD\_MSG(p\_seqNum: UM\_SeqNum; p\_eBit: ExtBit; p\_lenInds: LenInds; p\_data: UM\_Data)

Group

Structured Type : UMD\_PDU\_MSG

Derivation Path : Encoding Variation :

Comments : This constraint is used as the default value for tcv\_UMD\_MSG

| Element Name        | Element Value | Element Encoding | Comments |
|---------------------|---------------|------------------|----------|
| seqNum              | p_seqNum      |                  |          |
| eBit                | p_eBit        |                  |          |
| lenInds             | p_lenInds     |                  |          |
| data                | p_data        |                  |          |
| Detailed Comments : |               |                  |          |

# **Structured Type Constraint Declaration**

Constraint Name : c\_UM\_DataStruct(p\_data: UM\_Data; p\_filled: BOOLEAN)

Group :

Structured Type : UM\_DataStruct

Derivation Path : Encoding Variation :

**Comments**: Data part of a UMD PDU embedded in a structured type.

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| data         | p_data        |                  | 1        |
| filled       | p_filled      |                  | 2        |

Detailed Comments: 1. Data part of a UM PDU

2. Indicator if data part is filled or not.

Note: This structured type is needed to set the data field to the value OMIT. The indicator is thus unused.

#### **Structured Type Constraint Declaration**

Constraint Name : cr\_LenInd15AndE\_BitAny

Group

Structured Type : LenInd15AndE\_Bit

Derivation Path : Encoding Variation :

Comments : This constraint is used to receive any 15 bit length indicator followed by any

extension bit.

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| lenInd       | ?             |                  |          |
| extBit       | ?             |                  |          |
|              |               |                  |          |

Constraint Name : cr\_LenInd7AndE\_BitAny

Group :

Structured Type : LenInd7AndE\_Bit

Derivation Path : Encoding Variation :

Comments : This constraint is used to receive any 7 bit length indicator followed by any

extension bit.

| Element Name        | Element Value | Element Encoding | Comments |
|---------------------|---------------|------------------|----------|
| lenInd              | ?             |                  |          |
| extBit              | ?             |                  |          |
| Detailed Comments : |               |                  |          |

**Structured Type Constraint Declaration** 

Constraint Name : cr\_LenIndsAny

Group :

Structured Type : LenInds

Derivation Path : Encoding Variation :

Comments : This constraint is used to receive any length indicator group within a PDU (AM or UM)

| Element Name | Element Value                     | Element Encoding | Comments |
|--------------|-----------------------------------|------------------|----------|
| lenInd7_1    | cr_LenInd7AndE_BitAny IF_PRESENT  |                  |          |
| lenInd7_2    | cr_LenInd7AndE_BitAny IF_PRESENT  |                  |          |
| lenInd7_3    | cr_LenInd7AndE_BitAny IF_PRESENT  |                  |          |
| lenInd7_4    | cr_LenInd7AndE_BitAny IF_PRESENT  |                  |          |
| lenInd7_5    | cr_LenInd7AndE_BitAny IF_PRESENT  |                  |          |
| lenInd15_1   | cr_LenInd15AndE_BitAny IF_PRESENT |                  |          |
| lenInd15_2   | cr_LenInd15AndE_BitAny IF_PRESENT |                  |          |
| lenInd15_3   | cr_LenInd15AndE_BitAny IF_PRESENT |                  |          |

Constraint Name : cr\_SUFI\_Params(p\_lb, p\_ub: AM\_SeqNum; p\_wsnpres, p\_mrwpres: BOOLEAN; p\_nack\_1,

p\_nack\_2, p\_nack\_3: AM\_SeqNum)

Group :

Structured Type : SUFI\_Params

Derivation Path : Encoding Variation :

Comments : This constraint initializes the list of parameters to be used as input for TSO o\_SUFI\_Handler which

treats a HEXSTRING containing received SUFIs.

Refer to this TSO and the description of the test methodolgy.

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| LB           | p_lb          |                  | 1        |
| UB           | p_ub          |                  | 1        |
| WSN_presence | p_wsnpres     |                  | 1        |
| MRW_presence | p_mrwpres     |                  | 1        |
| Nack1        | p_nack_1      |                  | 1        |
| Nack2        | p_nack_2      |                  | 1        |
| Nack3        | p_nack_3      |                  | 1        |

Detailed Comments: 1....

#### **Structured Type Constraint Declaration**

Constraint Name : cr\_UMD\_MSG\_LIs(p\_SN: INTEGER; p\_LIs: LenInds; p\_Data:UM\_Data )

Group :

Structured Type : UMD\_PDU\_MSG

Derivation Path : Encoding Variation :

**Comments**: This constraint is used to represent a UM PDU containing data, a length

indicator group, BUT NO padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Lls:

The length indicator group to be used in the PDU. This field must contain at least one LI, and at least one LI indicating that the rest of the PDU contains

padding.

p\_Data:

The data to be included in the PDU.

| Element Name        | Element Value                      | Element Encoding | Comments |
|---------------------|------------------------------------|------------------|----------|
| seqNum              | INT_TO_BIT( p_SN, tsc_UM_SN_Size ) |                  |          |
| eBit                | tsc_E_LI_AndE_Bit                  |                  |          |
| lenInds             | p_LIs                              |                  |          |
| data                | p_Data                             |                  |          |
| Detailed Comments : |                                    |                  |          |

Constraint Name : cr\_UMD\_MSG\_NoLls(p\_SN: INTEGER; p\_Data:UM\_Data)

Group

Structured Type : UMD\_PDU\_MSG

Derivation Path : Encoding Variation :

Comments : This constraint is used to represent a UM PDU containing data, NO length

indicator group, BUT NO padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Data:

The data to be included in the PDU.

| Element Value                      | Element Encoding                              | Comments                                      |
|------------------------------------|---|---|
| INT_TO_BIT( p_SN, tsc_UM_SN_Size ) |   |   |
| tsc_E_Data                         |   |   |
| _                                  |   |   |
| p_Data                             |   |   |
|                                    | INT_TO_BIT( p_SN, tsc_UM_SN_Size ) tsc_E_Data | INT_TO_BIT( p_SN, tsc_UM_SN_Size ) tsc_E_Data |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : cs\_Ack( p\_LSN: INTEGER )

Group :

Structured Type : SUFI\_Ack

Derivation Path : Encoding Variation :

**Comments**: An ACK SUFI to be used in SuperFields constraints.

Parameters:

p\_LSN: An integer containing the last sequence number to be acknowledged.

0 <= p\_LSN <= 4095

Padding calculations:

4 half octets

| Element Name | Element Value           | Element Encoding | Comments |
|--------------|-------------------------|------------------|----------|
| type         | tsc_SUFI_Ack            |                  | 4 bits   |
| Isn          | INT_TO_BIT( p_LSN, 12 ) |                  | 12 bits  |
|              |                         |                  |          |

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.1cm} \text{cs\_MRW\_ACK(} \hspace{0.1cm} \text{p\_N: N\_Length; p\_SN\_ACK: AM\_SeqNum} \hspace{0.1cm} )$ 

Group

Structured Type : SUFI\_MRW\_ACK

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a MRW ACK SUFI containing the given values for N

and SN\_ACK.

Parameters: p\_N:

Shall be set equal to the N\_length field of the received MRW SUFI if the

SN\_ACK field is equal to the SN\_MRW\_length field. Otherwise p\_n shall be set to

0.

p\_SN\_ACK:

Indicates the updatedvalue of VR(R) after reception of the MRW SUFI.

Padding calculation:

5 half octets.

| Element Name | Element Value    | Element Encoding | Comments |
|--------------|------------------|------------------|----------|
| type         | tsc_SUFI_MRW_ACK |                  |          |
| n            | p_N              |                  |          |
| sN_ACK       | p_SN_ACK         |                  |          |
|              |                  |                  |          |

Constraint Name : cs\_SF\_Ack( p\_LSN:INTEGER )

Group

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to represent a SUFI list within a STATUS PDU that

positively acknowledges all PDUs with SN < p\_LSN.

Parameters: p\_LSN:

An integer representing LSN (last sequence number), which acknowledges all PUs with SN < LSN that are NOT indicated to be erroneous in earlier parts of the STATUS PDU. This parameter is used in a call to INT\_TO\_BIT, so a value must be

provided.

Padding calculation:

4 half octets

| Element Name | Element Value   | Element Encoding | Comments      |
|--------------|-----------------|------------------|---------------|
| windowSize   | -               |                  |               |
| list         | _               |                  |               |
| rList        | _               |                  |               |
| bitmap       | _               |                  |               |
| mRW          | _               |                  |               |
| mRW_Ack      | _               |                  |               |
| noMore       | _               |                  |               |
| ack          | cs_Ack( p_LSN ) |                  | 4 half octets |

Constraint Name : cs\_SF\_List1AndACK( p\_SN1L1: SNiLiPair; p\_LSN: INTEGER)

Group

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a SUFI list containing a LIST SUFI with

one (SNi, Li) pair, followed by an ACK SUFI

Parameters: p\_SN1L1:

The first (SNi, Li) pair to be sent.

p\_LSN:

The LSN value to use within the ACK SUFI.

Padding calculation: 10 half octets

| Element Name | Element Value     | Element Encoding | Comments      |
|--------------|-------------------|------------------|---------------|
| windowSize   | _                 |                  |               |
| list         | c_List1( p_SN1L1) |                  | 6 half octets |
| rList        | _                 |                  |               |
| bitmap       | _                 |                  |               |
| mRW          | _                 |                  |               |
| mRW_Ack      | _                 |                  |               |
| noMore       | -                 |                  |               |
| ack          | cs_Ack( p_LSN )   |                  | 4 half octets |

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.3cm} \text{cs\_SF\_List1InvLengthAndAck(} \hspace{0.1cm} \text{p\_SN1L1: SNiLiPair;} \hspace{0.1cm} \text{p\_LSN: INTEGER )} \\$ 

Group :

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a SUFI list containing a LIST SUFI with

one ( SNi, Li ) pair, but containing an invalid length field ('0000'B), followed by an ACK SUFI acknowledging all PDUs with SN < LSN

Parameters: p\_SN1L1:

The first (SNi, Li) pair to be sent.

p\_LSN:

The LSN value to use within the ACK SUFI.

Padding calculation: 10 half octets

| Element Name | Element Value                      | Element Encoding | Comments      |
|--------------|------------------------------------|------------------|---------------|
| windowSize   | _                                  |                  |               |
| list         | c_List1_InvalidLength(<br>p_SN1L1) |                  | 6 half octets |
| rList        | _                                  |                  |               |
| bitmap       | _                                  |                  |               |
| mRW          | _                                  |                  |               |
| mRW_Ack      | _                                  |                  |               |
| noMore       | _                                  |                  |               |
| ack          | cs_Ack( p_LSN )                    |                  | 4 half octets |

Constraint Name : cs\_SF\_MRWAckAndNoMore( p\_N: N\_Length; p\_SN\_ACK: AM\_SeqNum )

Group

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : A SuperField set containing an MRW ACK SUFI, and a NO MORE SUFI.

Padding calculation: 6 half octets

| Element Name | Element Value               | Element Encoding | Comments      |
|--------------|-----------------------------|------------------|---------------|
| windowSize   | -                           |                  |               |
| list         | _                           |                  |               |
| rList        | _                           |                  |               |
| bitmap       | _                           |                  |               |
| mRW          | _                           |                  |               |
| mRW_Ack      | cs_MRW_ACK( p_N, p_SN_ACK ) |                  | 5 half octets |
| noMore       | c_NoMore                    |                  | 1 half octet  |
| ack          | _                           |                  |               |

#### **Structured Type Constraint Declaration**

Constraint Name : cs\_SF\_Nack0( p\_LSN: INTEGER )

Group :

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a SUFI list within a STATUS PDU that negatively

acknowledges the PDU with SN 0, and positively acknowledges all other PDUs with

SN < p\_LSN.

Parameters: p\_LSN:

An integer representing LSN (last sequence number), which acknowledges all PUs with SN < LSN that are NOT indicated to be erroneous in earlier parts of the STATUS PDU. This parameter is used in a call to INT\_TO\_BIT, so a value must be

provided.

Padding calculation: 10 half octets

| Element Name | Element Value            | Element Encoding | Comments      |
|--------------|--------------------------|------------------|---------------|
| windowSize   | _                        |                  |               |
| list         | c_List1( c_SNiLi( 0,0 )) |                  | 6 half octets |
| rList        | _                        |                  |               |
| bitmap       | _                        |                  |               |
| mRW          | _                        |                  |               |
| mRW_Ack      | _                        |                  |               |
| noMore       | -                        |                  |               |
| ack          | cs_Ack( p_LSN )          |                  | 4 half octets |
|              |                          |                  |               |

Constraint Name : cs\_SF\_Nack0And1( p\_LSN: INTEGER )

Group

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to send a SUFI list within a STATUS PDU that negatively

acknowledges the PDUs with SN 0 and 1, and positively acknowledges all other PDUs

with  $SN < p_LSN$ .

Parameters: p\_LSN:

An integer representing LSN (last sequence number), which acknowledges all PUs with SN < LSN that are NOT indicated to be erroneous in earlier parts of the STATUS PDU. This parameter is used in a call to INT\_TO\_BIT, so a value must be

provided.

Padding calculation: 10 half octets

| Element Name | Element Value             | Element Encoding | Comments      |
|--------------|---------------------------|------------------|---------------|
| windowSize   | _                         |                  |               |
| list         | c_List1( c_SNiLi( 0,1 ) ) |                  | 6 half octets |
| rList        | _                         |                  |               |
| bitmap       | -                         |                  |               |
| mRW          | -                         |                  |               |
| mRW_Ack      | -                         |                  |               |
| noMore       | -                         |                  |               |
| ack          | cs_Ack( p_LSN )           |                  | 4 half octets |

**Constraint Name**: cs\_SF\_WindowSizeAndNoMore(p\_WSN:INTEGER)

Group

Structured Type : SuperFields

Derivation Path : Encoding Variation :

Comments : This constraint is used to represent a SUFI list within a STATUS PDU which sets the window at the

UE side to WSN.

Parameters: p\_WSN:

An integer representing WSN (window size number) to be applied at the UE side., This parameter is

used in a call to INT\_TO\_BIT, so a value must be provided.

Padding calculation:

5 half octets

| Element Name        | Element Value          | Element Encoding | Comments      |
|---------------------|------------------------|------------------|---------------|
| windowSize          | cs_WindowSize( p_WSN ) |                  | 4 half octets |
| list                | _                      |                  |               |
| rList               | _                      |                  |               |
| bitmap              | _                      |                  |               |
| mRW                 | _                      |                  |               |
| mRW_Ack             | _                      |                  |               |
| noMore              | c_NoMore               |                  | 1 half octet  |
| ack                 | _                      |                  |               |
| Datailed Comments : |                        |                  |               |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : cs\_WindowSize( p\_WSN: INTEGER )

Group :

Structured Type : SUFI\_WindowSize

Derivation Path : Encoding Variation :

**Comments**: An ACK SUFI to be used in SuperFields constraints.

Parameters:

p\_WSN: An integer containing the window size to be applied by the UEI.

0 <= p\_WSN <= 4095

Padding calculations:

4 half octets

| Element Name | Element Value           | Element Encoding | Comments |
|--------------|-------------------------|------------------|----------|
| type         | tsc_SUFI_WindowSize     |                  | 4 bits   |
| wsn          | INT_TO_BIT( p_WSN, 12 ) |                  | 12 bits  |
| 5            |                         |                  |          |

Constraint Name : c\_AuthFailParamGmmAny

Group :

Structured Type : AuthenticationFailureParameter

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00110000'B   |                  |          |
| iel          | '0E'O         |                  |          |
| auts         | ?             |                  |          |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : c\_AC\_RefNum3

Group :

Structured Type : AC\_ReferenceNumber

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| value        | '0011'B       |                  |          |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : c\_AttachTypeAny

Group :

**Structured Type** : AttachType

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments          |
|--------------|---------------|------------------|-------------------|
| for          | ?             |                  | Follow-on request |
| type         | ?             |                  | Type of attach    |

**Constraint Name** : c\_AuthCiphRspExtAny

Group

Structured Type : AuthRspExt

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value | Element Encoding | Comments                             |
|--------------|---------------|------------------|--------------------------------------|
| iei          | '00101001'B   |                  | IEI is 0x29<br>(see 24.008 / 9.4.10) |
| iel          | ?             |                  |                                      |
| rES          | ?             |                  |                                      |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_AuthFailParamAny

Group

Structured Type : AuthenticationFailureParameter

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00100010'B   |                  |          |
| iel          | '0E'O         |                  |          |
| auts         | ?             |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

**Constraint Name** : c\_AuthRspAny\_tv

Group

Structured Type : AuthRsp\_tv

**Derivation Path Encoding Variation:** Comments

| Element Name       | Element Value | Element Encoding | Comments                     |
|--------------------|---------------|------------------|------------------------------|
| iei                | '00100010'B   |                  | '00100010'B (22 hex)         |
| value              | ?             |                  | Authentication Parameter RES |
| Detailed Comments: |               |                  |                              |

Constraint Name : c\_AuthRspExtAny

Group :

Structured Type : AuthRspExt

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments    |
|--------------|---------------|------------------|-------------|
| iei          | '00100001'B   |                  | '00100001'B |
| iel          | ?             |                  |             |
| rES          | ?             |                  |             |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_AUTN(p\_AUTN: BITSTRING)

Group :

Structured Type : AUTN

Derivation Path : Encoding Variation :

Comments : Authentication Parameter AUTN

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| Element Name | Element Value | Element Encoding | Comments                                  |
|--------------|---------------|------------------|---|
| iei          | '00100000'B   |                  |   |
| iel          | '10'O         |                  | Length of 16 octets                       |
| aUTN         | p_AUTN        |                  | value of Authentication<br>Parameter AUTN |
|              |               |                  |   |

Constraint Name : c\_CellIndInfoDef

Group :

Structured Type : CellIndependantInfo

Derivation Path : Encoding Variation : Comments :

| Element Name                 | Element Value                           | Element Encoding | Comments   |
|------------------------------|---|------------------|--|
| cs_cipheringStarted          | FALSE                                   |                  |  |
| ps_cipheringStarted          | FALSE                                   |                  |  |
| recentSecureDomain           | cs_domain                               |                  | the domain on which security was recently started, and hence the SRB are ciphered and Integrit protected with this domain. |
| dL_CipherMode                | cs_Null_CipheringModeCom<br>mand        |                  |  |
| uL_CipherMode                | -                                       |                  |  |
| cipheringAlgorithmCapability | '000000000000011'B                      |                  |  |
| integrityStarted             | FALSE                                   |                  |  |
| dL_Integrity                 | cs_IntegrityProtectStart (<br>px_FRESH) |                  |  |
| uL_Integrity                 | _                                       |                  |  |
| dl_IntegrityCheckInfo        | _                                       |                  |  |
| start_CS                     | '00000000000000000000'B                 |                  | Default new key  |
| start_PS                     | '00000000000000000000'B                 |                  | Default new key  |
| Detailed Comments :          |   |                  |  |

**Constraint Name** 

: c\_CellInfoDef (p\_CellId : INTEGER; p\_priScrmCode : PrimaryScramblingCode; p\_URA\_Id : BITSTRING; p\_tCell : Tcell; p\_sfnOffset : INTEGER; p\_FreqInfo : FrequencyInfo;

p\_UL\_ScramblingCode : UL\_ScramblingCode )

Group

**Structured Type** : CellInfoCfg

**Derivation Path Encoding Variation:** Comments

| Element Name        | Element Value                | Element Encoding | Comments |
|---------------------|------------------------------|------------------|----------|
| cellId              | p_CellId                     |                  |          |
| frequencyInfo       | p_FreqInfo                   |                  |          |
| attenuationLevel    | tsc_AttenuationServingCell   |                  |          |
| priScrmCode         | p_priScrmCode                |                  |          |
| powerpCPICH         | tsc_PowerpCPICH              |                  |          |
| powerpSCH           | tsc_PowerpSCH                |                  |          |
| powersSCH           | tsc_PowersSCH                |                  |          |
| powerpCCPCH         | tsc_PowerpCCPCH              |                  |          |
| powersCCPCH         | tsc_PowersCCPCH1             |                  |          |
| powersCCPCH1        | tsc_PowersCCPCH1             |                  |          |
| timingsCCPCH1       | tsc_TimingsCCPCH1            |                  |          |
| powerAICH           | tsc_PowerAICH                |                  |          |
| powerPICH           | tsc_PowerPICH                |                  |          |
| cellTxPowerLevel    | defaultCellTxPowerLvI : NULL |                  |          |
| tCell               | p_tCell                      |                  |          |
| sfnOffset           | p_sfnOffset                  |                  |          |
| puncLimit           | tsc_PuncLimit                |                  |          |
| sf_PRACH            | tsc_PRACH1_SF                |                  |          |
| slotFormatsCCPCH1   | tsc_SlotFormatsCCPCH1        |                  |          |
| mcc                 | tsc_MCC_Def                  |                  |          |
| mnc                 | tsc_MNC_Def                  |                  |          |
| lac                 | tsc_LAC_Def                  |                  |          |
| rac                 | tsc_RAC_Def                  |                  |          |
| attFlag             | tsc_AttOn                    |                  |          |
| nmo                 | tsc_NMO_I                    |                  |          |
| ura_ldentity        | p_URA_Id                     |                  |          |
| t3212               | tsc_T3212_Def                |                  |          |
| cRNTI               | tsc_CRNTI                    |                  |          |
| uRNTI               | c_U_RNTI_Def                 |                  |          |
| cellConfig          | cell_NotConfigured           |                  |          |
| dRX_CycleLength     | c_DRX_CycleLengthStrucD ef   |                  |          |
| uL_ScramblingCode   | p_UL_ScramblingCode          |                  |          |
| DL_DPCH_SHO         | FALSE                        |                  |          |
| UL_DPCH_SHO         | FALSE                        |                  |          |
| dl_DPCH_2ndScrCode  | tsc_DL_DPCH1_2ndScrC         |                  |          |
| Detailed Comments : |                              | <u> </u>         |          |

 $\begin{tabular}{ll} \textbf{Constraint Name} & : c\_CiphAlgorithm (p\_alg:B3) \\ \end{tabular}$ 

Group

Structured Type : CiphAlgorithm

Derivation Path : Encoding Variation : Comments :

| spare1 '0'B     |  |
|-----------------|--|
|                 |  |
| algorithm p_alg |  |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : c\_CiphKeySeqNum(p\_KeySeq: KeySeq)

Group :

Structured Type : CiphKeySeqNum

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| are1 '(      | '0'B          |                  |          |
| ySeq p       | p_KeySeq      |                  |          |
|              |               |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_DetachTypeReAttNotRequiredGPRS

Group :

**Structured Type** : DetachType

Derivation Path : Encoding Variation :

Comments : 'normal detach, re-attach not required'

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| powOff       | '0'B          |                  |          |
| type         | '001'B        |                  |          |

Constraint Name : c\_DRX\_CycleLengthStrucDef

Group :

Structured Type : DRX\_CycleLengthStructure

Derivation Path : Encoding Variation : Comments :

| Element Name          | Element Value | Element Encoding | Comments |
|-----------------------|---------------|------------------|----------|
| cN_CS_DRX_CycleLength | 7             |                  |          |
| cN_PS_DRX_CycleLength | 7             |                  |          |
| uTRAN_DRX_CycleLength | 9             |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_DRX\_ParamterAny

Group :

Structured Type : DRXparamter

Derivation Path : Encoding Variation : Comments :

| Element Name      | Element Value | Element Encoding | Comments                                 |  |
|-------------------|---------------|------------------|--|--|
| splitPGcycleCode  | ?             |                  | Split PG cycle code                      |  |
| cnDRXcoef         | ?             |                  | CN specific DRX cycle length coefficient |  |
| splitOnCCCH       | ?             |                  | Split on CCCCH                           |  |
| nonDRXtimer       | ?             |                  | non-DRX timer                            |  |
| Datailed Comments |               |                  |  |  |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_ForceToStandby( p\_val : B3 )

Group :

Structured Type : ForceToStandby

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare        | '0'B          |                  |          |
| value        | p_val         |                  |          |
|              |               |                  |          |

Constraint Name : c\_GMM\_AttachResult( p\_result : B3 )

Group :

Structured Type : AttachResult

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare        | '0'B          |                  |          |
| result       | p_result      |                  |          |
|              | I.            |                  |          |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : c\_GMM\_AuthAUTN (p\_autn : B128)

Group :

Structured Type : GMM\_AUTN

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00101000'B   |                  |          |
| iel          | '10'O         |                  |          |
| aUTN         | p_autn        |                  |          |
|              |               |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_GMM\_AuthRAND (p\_rand : BITSTRING)

Group :

**Structured Type**: AuthenticationParamterRAND

Derivation Path : Encoding Variation : Comments :

| Element Value | Element Encoding | Comments |
|---------------|------------------|----------|
| '00100001'B   |                  |          |
| p_rand        |                  |          |
| ŗ             |                  |          |

Constraint Name : c\_GMM\_KeySeq\_tv (p\_key : KeySeq )

Group :

Structured Type : CiphKeySeqNum\_tv

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '1000'B       |                  |          |
| spare1       | '0'B          |                  |          |
| keySeq       | p_key         |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_GMM\_MobileIdTMSI (p\_tmsi : OCTETSTRING)

Group :

Structured Type : GMM\_MS\_Identity

Derivation Path : Encoding Variation :

Comments : Default TMSI

| Element Name | Element Value | Element Encoding | Comments                  |
|--------------|---------------|------------------|---------------------------|
| iei          | '00100011'B   |                  |                           |
| iel          | '05'O         |                  | TMSI consists of 4 octets |
| iDigit1      | '1111'B       |                  | special coding for TMSI   |
| oddEvenInd   | '0'B          |                  | even                      |
| typeOfId     | '100'B        |                  | TMSI                      |
| otherDigits  | p_tmsi        |                  |                           |
|              |               |                  | ·                         |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.1cm} c\_GMM\_UpdateType\_v(\hspace{0.1cm} p\_for: \hspace{0.1cm} B1; \hspace{0.1cm} p\_type: \hspace{0.1cm} B3 \hspace{0.1cm})$ 

Group :

Structured Type : UpdateType\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| for          | p_for         |                  |          |
| value        | p_type        |                  |          |
|              |               |                  |          |

Constraint Name : c\_GPRS\_Timer\_v( p\_unit : B3; p\_value : B5 )

Group :

Structured Type : GPRS\_Timer\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| unit         | p_unit        |                  |          |
| value        | p_value       |                  |          |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : c\_GPRS\_TimerAny

Group :

Structured Type : GPRS\_Timer

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments            |
|--------------|---------------|------------------|---------------------|
| iei          | '00010111'B   |                  | 00010111'B (17 hex) |
| unit         | ?             |                  | Unit                |
| value        | ?             |                  | Timer value         |
|              |               |                  | -                   |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

**Constraint Name**: c\_LB\_SetupRB\_IE( p\_LB\_Size, p\_RB\_Identity: INTEGER )

Group

Structured Type : LB\_SetupRB\_IE

Derivation Path : Encoding Variation :

**Comments**: This constraint is used as an LB entry in an LB setup list.

Parameters:

p\_LB\_Size: The uplink RLC SDU size in bits. This value will be represented as a

14 bit value in the LB Setup IE, so the valid range is from 0..16383.

 $p\_RB\_Identity:$  The RB Id of the radio bearer that loopback is to be setup for. Valid range is 5..31, since RB 0–4 are used for signalling radio bearers.

| Element Name        | Element Value              | Element Encoding | Comments |
|---------------------|----------------------------|------------------|----------|
| rLC_SDU_Size        | INT_TO_BIT( p_LB_Size, 16  |                  |          |
|                     | )                          |                  |          |
| spare_2             | '000'B                     |                  |          |
| rB_Identity         | INT_TO_BIT( p_RB_Identity, |                  |          |
|                     | 5)                         |                  |          |
| Detailed Comments : |                            |                  |          |

Constraint Name : c\_LocAreald\_v(p\_MCC: HEXSTRING; p\_MNC: HEXSTRING; p\_LAC: OCTETSTRING)

Group

Structured Type : LocAreald\_v

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value                | Element Encoding | Comments |
|--------------|------------------------------|------------------|----------|
| plmn         | o_ConvtPLMN(p_MCC,<br>p_MNC) |                  |          |
| lac          | p_LAC                        |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_LocArealdAny\_v

Group

: LocAreald\_v

Structured Type

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| plmn         | ?             |                  |          |
| lac          | ?             |                  |          |

**Detailed Comments:** 

#### **Structured Type Constraint Declaration**

Constraint Name : c\_LocUpdTypeAny

Group

**Structured Type** : LocUpdType

**Derivation Path Encoding Variation:** Comments

| Element Name         | Element Value | Element Encoding | Comments |
|----------------------|---------------|------------------|----------|
| fOR                  | ?             |                  |          |
| spare1               | '0'B          |                  |          |
| IUT                  | ?             |                  |          |
| Paralla di Communita |               |                  |          |

Constraint Name : c\_MobileIdAny\_lv

Group :

Structured Type : MS\_Identity\_lv

Derivation Path : Encoding Variation : Comments :

| ? |       |       |
|---|-------|-------|
| 2 |       |       |
| • |       |       |
| ? |       |       |
| ? |       |       |
| ? |       |       |
|   | ? ? ? | ? ? ? |

# **Structured Type Constraint Declaration**

Constraint Name : c\_MobileIdPTMSI (p\_ptmsi : O0\_8 )

Group :

Structured Type : GMM\_MS\_IdentityPTMSI

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments                  |
|--------------|---------------|------------------|---------------------------|
| iei          | '00011000'B   |                  |                           |
| iel          | '05'O         |                  | TMSI consists of 4 octets |
| iDigit1      | '1111'B       |                  | special coding for TMSI   |
| oddEvenInd   | '0'B          |                  | even                      |
| typeOfld     | '100'B        |                  | TMSI / P-TMSI             |
| otherDigits  | p_ptmsi       |                  |                           |
|              |               |                  |                           |

Constraint Name : c\_MobileIdPTMSI\_Any

Group :

Structured Type : GMM\_MS\_IdentityPTMSI

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments                  |
|--------------|---------------|------------------|---------------------------|
| iei          | '00011000'B   |                  |                           |
| iel          | '05'O         |                  | TMSI consists of 4 octets |
| iDigit1      | '1111'B       |                  | special coding for TMSI   |
| oddEvenInd   | '0'B          |                  | even                      |
| typeOfId     | '100'B        |                  | TMSI / P-TMSI             |
| otherDigits  | ?             |                  | Any value                 |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_MobileIdTMSI\_Def

Group :

Structured Type : MM\_MS\_Identity

Derivation Path : Encoding Variation :

Comments : Default TMSI

| Element Value | Element Encoding                      | Comments                              |
|---------------|---------------------------------------|---------------------------------------|
| '00010111'B   |                                       |                                       |
| '05'O         |                                       | TMSI consists of 4 octets             |
| '1111'B       |                                       | special coding for TMSI               |
| '0'B          |                                       | even                                  |
| '100'B        |                                       | TMSI                                  |
| px_TMSI_Def   |                                       |                                       |
|               | '00010111'B '05'O '1111'B '0'B '100'B | '00010111'B '05'O '1111'B '0'B '100'B |

Constraint Name : c\_MobileIdTMSI\_lv

Group

Structured Type : MS\_Identity\_lv

**Derivation Path Encoding Variation:** 

Comments : Default TMSI

| Element Name        | Element Value | Element Encoding | Comments                  |
|---------------------|---------------|------------------|---------------------------|
| iel                 | '05'O         |                  | TMSI consists of 4 octets |
| iDigit1             | '1111'B       |                  | special coding for TMSI   |
| oddEvenInd          | '0'B          |                  | even                      |
| typeOfld            | '100'B        |                  | TMSI                      |
| otherDigits         | px_TMSI_Def   |                  |                           |
| Detailed Comments : |               |                  |                           |

# **Structured Type Constraint Declaration**

Constraint Name : c\_MS\_Clsmk1\_Any

Group

Structured Type : MS\_Clsmk1

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare1       | '0'B          |                  |          |
| revLvI       | ?             |                  |          |
| eSIND        | ?             |                  |          |
| a5_1         | ?             |                  |          |
| rFPwrCap     | ?             |                  |          |
|              |               |                  | ·        |

Constraint Name : c\_MS\_Clsmk2\_Any

Group :

**Structured Type** : MS\_Clsmk2

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00110011'B   |                  |          |
| iel          | '03'O         |                  |          |
| spare1_1     | '0'B          |                  |          |
| revLvI       | ?             |                  |          |
| eSIND        | ?             |                  |          |
| a5_1         | ?             |                  |          |
| rFPwrCap     | ?             |                  |          |
| spare1_2     | '0'B          |                  |          |
| pSCap        | ?             |                  |          |
| sSSI         | ?             |                  |          |
| sMCap        | ?             |                  |          |
| vBS          | ?             |                  |          |
| vGCS         | ?             |                  |          |
| fC           | ?             |                  |          |
| cM3          | ?             |                  |          |
| spare1_3     | '0'B          |                  |          |
| ICSVA        | ?             |                  |          |
| uCS2         | ?             |                  |          |
| soLSA        | ?             |                  |          |
| cMSP         | ?             |                  |          |
| a5_3         | ?             |                  |          |
| a5_2         | ?             |                  |          |

Constraint Name : c\_MS\_Clsmk2\_Any\_lv

Group :

Structured Type : MS\_Clsmk2\_lv

Derivation Path : Encoding Variation : Comments :

| Element Name        | Element Value | Element Encoding | Comments |
|---------------------|---------------|------------------|----------|
| iel                 | '03'O         |                  |          |
| spare1_1            | '0'B          |                  |          |
| revLvI              | ?             |                  |          |
| eSIND               | ?             |                  |          |
| a5_1                | ?             |                  |          |
| rFPwrCap            | ?             |                  |          |
| spare1_2            | '0'B          |                  |          |
| pSCap               | ?             |                  |          |
| sSSI                | ?             |                  |          |
| sMCap               | ?             |                  |          |
| vBS                 | ?             |                  |          |
| vGCS                | ?             |                  |          |
| fC                  | ?             |                  |          |
| cM3                 | ?             |                  |          |
| spare1_3            | '0'B          |                  |          |
| ICSVA               | ?             |                  |          |
| uCS2                | ?             |                  |          |
| soLSA               | ?             |                  |          |
| cMSP                | ?             |                  |          |
| a5_3                | ?             |                  |          |
| a5_2                | ?             |                  |          |
| Detailed Comments : |               |                  |          |

| Structured Type | Camatraint | Deelevetien |
|-----------------|------------|-------------|
|                 |            |             |

Constraint Name : c\_MS\_RadioAccessCapAny\_lv

Group

Structured Type : MSRadioAccessCap\_lv

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments  |
|--------------|---------------|------------------|---|
| iel          | ?             |                  |   |
| value        | ?             |                  | MS radio access capability value (CSN.1 coding) |
|              |               |                  |   |

Constraint Name : c\_PLMN\_List1 (p\_Plmn1 : OCTETSTRING )

Group :

Structured Type : PLMN\_List

Derivation Path : Encoding Variation :

Comments : equivalent PLMN list containing 1 PLMN (OCTETSTRING[3])

| Element Name | Element Value | Element Encoding | Comments    |
|--------------|---------------|------------------|-------------|
| iei          | '01001010'B   |                  | '01001010'B |
| iel          | '03'O         |                  |             |
| plmn1        | p_Plmn1       |                  | PLMN 1      |
| plmn2        | -             |                  | PLMN 2      |
| plmn3        | -             |                  | PLMN 3      |
| plmn4        | -             |                  | PLMN 4      |
| plmn5        | _             |                  | PLMN 5      |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

**Constraint Name**: c\_PTMSI\_Signature (p\_ptmsi : OCTETSTRING)

Group :

Structured Type : PTMSI\_Signature

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00011001'B   |                  |          |
| value        | p_ptmsi       |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_PTMSI\_Signature\_tlv (p\_ptmsi : OCTETSTRING)

Group :

Structured Type : PTMSI\_Signature\_tlv

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00011001'B   |                  |          |
| iel          | '03'O         |                  |          |
| value        | p_ptmsi       |                  |          |
|              |               |                  |          |

Constraint Name : c\_PTMSI\_SignatureAny

Group :

Structured Type : PTMSI\_Signature

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments               |
|--------------|---------------|------------------|------------------------|
| iei          | '00011001'B   |                  | '00011001'B (19 hex)   |
| value        | ?             |                  | P-TMSI signature value |

**Detailed Comments:** 

## **Structured Type Constraint Declaration**

Constraint Name : c\_RadioPriority(p\_val : B3)

Group :

Structured Type : RadioPriority\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare        | '0'B          |                  |          |
| value        | p_val         |                  |          |
|              |               |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : c\_RadioPriority2(p\_val : B3)

Group :

Structured Type : RadioPriority2\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare        | '0'B          |                  |          |
| value        | p_val         |                  |          |

Constraint Name : c\_RAI\_Any\_v

Group :
Structured Type : RAI\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments                |
|--------------|---------------|------------------|-------------------------|
| plmn         | ?             |                  | MCC + MNC 3 digits each |
| lac          | ?             |                  | LAC                     |
| rac          | ?             |                  | RAC                     |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : c\_RAI\_v (p\_mcc : HEXSTRING; p\_mnc : HEXSTRING; p\_lac : OCTETSTRING; p\_rac :

OCTETSTRING)

Group :

Structured Type : RAI\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value                | Element Encoding | Comments |
|--------------|------------------------------|------------------|----------|
| plmn         | o_ConvtPLMN(p_mcc,<br>p_mnc) |                  |          |
| lac          | p_lac                        |                  |          |
| rac          | p_rac                        |                  |          |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : c\_RepeatIndAny

Group :

Structured Type : RepeatInd

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |  |
|--------------|---------------|------------------|----------|--|
| iei          | '1101'B       |                  | 'D'H     |  |
| repeatInd    | ?             |                  |          |  |
|              |               |                  |          |  |

**Constraint Name** : c\_ServiceType\_v(p\_type : B3)

Group

Structured Type : ServiceType\_v

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare1       | '0'B          |                  |          |
| type         | p_type        |                  |          |

**Detailed Comments:** 

## **Structured Type Constraint Declaration**

Constraint Name : c\_TMSI\_StatusAny

Group :

Structured Type : TMSI\_Status

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '1001'B       |                  | '1001'B  |
| spare3       | '000'B        |                  |          |
| flag         | ?             |                  | Flag     |

Constraint Name : c\_UE\_TestLoopMode1\_LB\_Setup( p\_LB\_Size, p\_RB\_Identity: INTEGER )

Group :

Structured Type

:

: UE\_TestLoopMode1LB\_Setup

Derivation Path : Encoding Variation :

Comments : This constra

: This constraint is used as a complete UE test loop mode 1 setup IE, with a

single LB entity in the LB setup list.

Parameters:

p\_LB\_Size: The uplink RLC SDU size in bits. This value will be represented as a

14 bit value in the LB Setup IE, so the valid range is from 0..16383.

p\_RB\_Identity: The RB Id of the radio bearer that loopback is to be setup for. Valid range is 5..31, since RB 0–4 are used for signalling radio bearers.

| Element Name   | Element Value                                 | Element Encoding | Comments |
|----------------|---|------------------|----------|
| iel            | '03'O   |                  |          |
| IB_SetupRB_IE1 | c_LB_SetupRB_IE(<br>p_LB_Size, p_RB_Identity) |                  |          |
| IB_SetupRB_IE2 | _   |                  |          |
| IB_SetupRB_IE3 | _   |                  |          |
| IB_SetupRB_IE4 | _   |                  |          |
| IB_SetupRB_IE5 | _   |                  |          |

**Detailed Comments:** 

## **Structured Type Constraint Declaration**

Constraint Name : cb\_IMEISV\_Request( p\_value: B3 )

Group :

Structured Type : IMEISVRequest

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| spare1       | '0'B          |                  |          |
| value        | p_value       |                  |          |

Constraint Name : cr\_AccessPtNameAny

Group :

Structured Type : AccessPtName

Derivation Path : Encoding Variation : Comments :

| iei '00101000'B length ?   | Element Name | Element Value | Element Encoding | Comments |
|--|--------------|---------------|------------------|----------|
|  | iei          | '00101000'B   |                  |          |
| DANIS DANIS OF THE PROPERTY OF | length       | ?             |                  |          |
| accessPtName ?   | accessPtName | ?             |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : cr\_Bcap3aEtcAny

Group :

Structured Type : Bcap3aEtc

Derivation Path : Encoding Variation : Comments :

| Element Name     | Element Value | Element Encoding | Comments |
|------------------|---------------|------------------|----------|
| extBit           | ?             |                  |          |
| coding           | ?             |                  |          |
| spare2           | ?             |                  |          |
| speechVersion    | ?             |                  |          |
| Paris 10 marries |               |                  |          |

Constraint Name : cr\_BcapAnyMO

Group : Bcap
Structured Type : Bcap
Derivation Path : Encoding Variation :

 $\label{lem:comments:equation$ 

| Element Name     | Element Value                 | Element Encoding | Comments |
|------------------|-------------------------------|------------------|----------|
| iei              | '00000100'B                   |                  |          |
| iel              | ?                             |                  |          |
| extBit3          | *                             |                  |          |
| radioChRequi     | *                             |                  |          |
| codingStd        | *                             |                  |          |
| transferMode     | *                             |                  |          |
| itc              | *                             |                  |          |
| bcap3aEtc1       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| bcap3aEtc2       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| bcap3aEtc3       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| bcap3aEtc4       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| bcap3aEtc5       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| bcap3aEtc6       | cr_Bcap3aEtcAny<br>IF_PRESENT |                  |          |
| extBit4          | *                             |                  |          |
| compress         | *                             |                  |          |
| structure        | *                             |                  |          |
| duplexMode       | *                             |                  |          |
| cfg              | *                             |                  |          |
| nirr             | *                             |                  |          |
| establish        | *                             |                  |          |
| extBit5          | *                             |                  |          |
| accessId         | *                             |                  |          |
| rateAdapt        | *                             |                  |          |
| sacp             | *                             |                  |          |
| extBit5a         | *                             |                  |          |
| OherItc          | *                             |                  |          |
| OtherRateAdapt   | *                             |                  |          |
| spare3           | *                             |                  |          |
| extBit5b         | *                             |                  |          |
| rateAdaptHeader  | *                             |                  |          |
| multiFrame       | *                             |                  |          |
| mode             | *                             |                  |          |
| logLinkld        | *                             |                  |          |
| assignorAssignee | *                             |                  |          |
| inBandOutBand    | *                             |                  |          |
| spare1           | *                             |                  |          |
| extBit6          | *                             |                  |          |

Continued on next page

| Structured Type Constraint Declaration |               |                  |          |
|--|---------------|------------------|----------|
| Element Name                           | Element Value | Element Encoding | Comments |
| layer1Id                               | *             |                  |          |
| userInfoLayer1                         | *             |                  |          |
| syncAsync                              | *             |                  |          |
| extBit6a                               | *             |                  |          |
| numStopBits                            | *             |                  |          |
| nego                                   | *             |                  |          |
| numDataBits                            | *             |                  |          |
| userRate                               | *             |                  |          |
| extBit6b                               | *             |                  |          |
| intermRate                             | *             |                  |          |
| nicTx                                  | *             |                  |          |
| nicRx                                  | *             |                  |          |
| parity                                 | *             |                  |          |
| extBit6c                               | *             |                  |          |
| connectElem                            | *             |                  |          |
| modemType                              | *             |                  |          |
| extBit6d                               | *             |                  |          |
| OtherModemType                         | *             |                  |          |
| FixedNtwUserRate                       | *             |                  |          |
| extBit6e                               | *             |                  |          |
| acceptChCoding                         | *             |                  |          |
| maxNumTrafficCh                        | *             |                  |          |
| extBit6f                               | *             |                  |          |
| ulMl                                   | *             |                  |          |
| wAIUR                                  | *             |                  |          |
| extBit6g                               | *             |                  |          |
| acceptChCodingExt                      | *             |                  |          |
| asymInd                                | *             |                  |          |
| spare2                                 | *             |                  |          |
| extBit7                                | *             |                  |          |
| layer2id                               | *             |                  |          |
| userInfoLayer2                         | *             |                  |          |
| Detailed Comments :                    | ·             | ·                |          |

Constraint Name : cr\_CC\_CapabilitiesAny

Group :

Structured Type : CC\_Capabilities

Derivation Path : Encoding Variation : Comments :

| Element Name       | Element Value | Element Encoding | Comments |
|--------------------|---------------|------------------|----------|
| iei                | '00010101'B   |                  |          |
| iel                | ?             |                  |          |
| maxNumBearer       | ?             |                  |          |
| spare2             | ?             |                  |          |
| рср                | ?             |                  |          |
| dtmf               | ?             |                  |          |
| spare4             | ?             |                  |          |
| maxNumSpeechBearer | ?             |                  |          |

Detailed Comments :

# **Structured Type Constraint Declaration**

Constraint Name : cr\_CDPN\_Any

Group

Structured Type : CDPN

Derivation Path : Encoding Variation : Comments :

| Element Name  | Element Value       | Element Encoding | Comments   |
|---------------|---------------------|------------------|--|
| iei           | '01011110'B         |                  | information element identifier                   |
| iel           | ?                   |                  | length   |
| typeOfNumPlan | cr_TypeOfNumPlanAny |                  | type of number and numbering plan identification |
| digits        | *                   |                  | BCD numbers                                      |
|               | _                   |                  |  |

Constraint Name : cr\_CDPS\_Any

Group :

Structured Type : CDPS

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '01101101'B   |                  |          |
| iel          | ?             |                  |          |
| subadrs      | cr_SubadrsAny |                  |          |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_CGPS\_Any

Group

Structured Type : CGPS

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments                       |  |
|--------------|---------------|------------------|--------------------------------|--|
| iei          | '01011101'B   |                  | information element identifier |  |
| iel          | ?             |                  | length                         |  |
| subadrs      | cr_SubadrsAny |                  | Subaddress                     |  |
|              |               |                  |                                |  |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_CodecAny

Group :

Structured Type : Codec

Derivation Path : Encoding Variation :

Comments : Codec

3G TS 24.008 cl. 10.5.4.32

| Element Name | Element Value | Element Encoding | Comments               |
|--------------|---------------|------------------|------------------------|
| sysld        | ?             |                  | system identification  |
| len          | ?             |                  | length                 |
| bitMap1to8   | ?             |                  | codec bitmap bits 1-8  |
| bitMap9to16  | *             |                  | codec bitmap bits 9-16 |

Constraint Name : cr\_CodecListAny

Group :

Structured Type : CodecList

Derivation Path : Encoding Variation :

Comments : Supported Codec List

3G TS 24.008 cl. 10.5.3.32

| Element Name        | Element Value          | Element Encoding | Comments             |  |
|---------------------|------------------------|------------------|----------------------|--|
| iei                 | '01000000'B            |                  | '01000000'B (40 hex) |  |
| iel                 | ?                      |                  | length               |  |
| codec1              | cr_CodecAny IF_PRESENT |                  | Codec                |  |
| codec2              | cr_CodecAny IF_PRESENT |                  | Codec                |  |
| codec3              | cr_CodecAny IF_PRESENT |                  | Codec                |  |
| codec4              | cr_CodecAny IF_PRESENT |                  | Codec                |  |
| codec5              | cr_CodecAny IF_PRESENT |                  | Codec                |  |
| Detailed Comments : |                        |                  |                      |  |

# **Structured Type Constraint Declaration**

Constraint Name : cr\_DRXparamter\_tv\_Any

Group :

Structured Type : DRXparamter\_tv

Derivation Path : Encoding Variation :

**Comments**: to be used in ROUTINGAREAUPDATEREQUEST constraints

| Element Name        | Element Value | Element Encoding | Comments                                 |
|---------------------|---------------|------------------|--|
| iei                 | '00100111'B   |                  | '00100111'B (hex 27)                     |
| splitPGcycleCode    | ?             |                  | Split PG cycle code                      |
| cnDRXcoef           | ?             |                  | CN specific DRX cycle length coefficient |
| splitOnCCCH         | ?             |                  | Split on CCCCH                           |
| nonDRXtimer         | ?             |                  | non-DRX timer                            |
| Detailed Comments : |               |                  |  |

Constraint Name : cr\_Facility\_Any

Group

Structured Type : Facility

**Derivation Path Encoding Variation:** 

Comments

: Facility information element

3G TS 24.008 cl. 10.5.4.15

| Element Name | Element Value | Element Encoding | Comments   |
|--------------|---------------|------------------|--|
| iei          | '00011100'B   |                  | information element<br>identifier<br>'00011100'B |
| iel          | ?             |                  | length   |
| comps        | *             |                  | Component  |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_FacilityAdvRecall

Group

Structured Type : Facility

**Derivation Path Encoding Variation:** Comments

| Element Name | Element Value | Element Encoding | Comments                       |
|--------------|---------------|------------------|--------------------------------|
| iei          | '00011101'B   |                  | information element identifier |
| iel          | ?             |                  | length                         |
| comps        | *             |                  | Component                      |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : cr\_GPRS\_TimerAny

Group

Structured Type : GPRS\_Timer

**Derivation Path Encoding Variation:** 

Comments : to be used in ROUTINGAREAUPDATEREQUEST constraints

| Element Name        | Element Value | Element Encoding | Comments            |
|---------------------|---------------|------------------|---------------------|
| iei                 | '00010111'B   |                  | 00010111'B (17 hex) |
| unit                | ?             |                  | Unit                |
| value               | ?             |                  | Timer value         |
| Patrillad Community |               |                  |                     |

Constraint Name : cr\_HLC\_Any

Group : HLC
Structured Type : HLC
Derivation Path : Encoding Variation :

Comments : High layer compatibility

| Element Name               | Element Value       | Element Encoding | Comments                       |  |
|----------------------------|---------------------|------------------|--------------------------------|--|
| iei                        | '01111101'B         |                  | information element identifier |  |
| iel                        | ?                   |                  |                                |  |
| extBit3                    | *                   |                  |                                |  |
| codingStd                  | *                   |                  |                                |  |
| interpretation             | *                   |                  |                                |  |
| presentModeProtocolProfile | *                   |                  |                                |  |
| extBit4                    | *                   |                  |                                |  |
| hlcld                      | *                   |                  |                                |  |
| extBit4a                   | *                   |                  |                                |  |
| exteHlcld                  | *                   |                  |                                |  |
| Detailed Comments :        | Detailed Comments : |                  |                                |  |

Constraint Name : cr\_LLC\_Any

Group : LLC
Structured Type : LLC
Derivation Path : Encoding Variation :

Comments : Low layer compatibility (CC information element)

| Element Name     | Element Value | Element Encoding | Comments |
|------------------|---------------|------------------|----------|
| iei              | '01111100'B   |                  |          |
| iel              | ?             |                  |          |
| extBit3          | *             |                  |          |
| codingStd        | *             |                  |          |
| itc              | *             |                  |          |
| extBit3a         | *             |                  |          |
| negoInd          | *             |                  |          |
| spare6           | *             |                  |          |
| extBit4          | *             |                  |          |
| transferMode     | *             |                  |          |
| infoTransferRate | *             |                  |          |
| extBit4_1        | *             |                  |          |
| rateMultiplier   | *             |                  |          |
| extBit5          | *             |                  |          |
| layer1ld         | *             |                  |          |
| userInfoLayer1   | *             |                  |          |
| extBit5a         | *             |                  |          |
| syncAsync        | *             |                  |          |
| nego             | *             |                  |          |
| userRate         | *             |                  |          |
| extBit5b1        | *             |                  |          |
| intermRate       | *             |                  |          |
| nicTx            | *             |                  |          |
| nicRx            | *             |                  |          |
| flowCtrlTx       | *             |                  |          |
| flowCtrlRx       | *             |                  |          |
| spare1           | *             |                  |          |
| extBit5b2        | *             |                  |          |
| rateAdaptHeader  | *             |                  |          |
| multiFrame       | *             |                  |          |
| mode             | *             |                  |          |
| logLinkld        | *             |                  |          |
| assignorAssignee | *             |                  |          |
| inBandOutBand    | *             |                  |          |
| spare1_5b2       | *             |                  |          |
| extBit5c         | *             |                  |          |
| numStopBits      | *             |                  |          |
| numDataBits      | *             |                  |          |
| parity           | *             |                  |          |
| extBit5d         | *             |                  |          |
| duplexMode       | *             |                  |          |

Continued on next page

| Structured Type Constraint Declaration |               |                  |          |
|--|---------------|------------------|----------|
| Element Name                           | Element Value | Element Encoding | Comments |
| modemType                              | *             |                  |          |
| extBit6                                | *             |                  |          |
| layer2id                               | *             |                  |          |
| userInfoLayer2                         | *             |                  |          |
| extBit6a1                              | *             |                  |          |
| modeLayer2                             | *             |                  |          |
| spare3                                 | *             |                  |          |
| q933                                   | *             |                  |          |
| extBit6a2                              | *             |                  |          |
| userSpecifLayer2                       | *             |                  |          |
| extBit6b                               | *             |                  |          |
| windowSize                             | *             |                  |          |
| extBit7                                | *             |                  |          |
| layer3id                               | *             |                  |          |
| userInfoLayer3                         | *             |                  |          |
| extBit7a1                              | *             |                  |          |
| OptionUserSpecifLayer3                 | *             |                  |          |
| extBit7a2                              | *             |                  |          |
| modeLayer3                             | *             |                  |          |
| spare5                                 | *             |                  |          |
| extb7b                                 | *             |                  |          |
| spare3_7b                              | *             |                  |          |
| defaultPacketSize                      | *             |                  |          |
| extBit7c                               | *             |                  |          |
| packetWindowSize                       | *             |                  |          |
| extBit7a3                              | *             |                  |          |
| spare3_7a3                             | *             |                  |          |
| addLayer3ProtocolInfo                  | *             |                  |          |
| extBit7a4                              | *             |                  |          |
| spare3_7a4                             | *             |                  |          |
| addLayer3ProtocolInfoL                 | *             |                  |          |
| Detailed Comments :                    |               |                  |          |

Constraint Name : cr\_LLC\_SAPI\_v

Group

Structured Type : LLC\_SAPI\_v

Derivation Path : Encoding Variation :

**Comments**: LLC SAPI value assigned as SAPI 3 in order to ensure that there are no problems at the time of

handover from UMTS to GSM

| Element Name   | Element Value                                 | Element Encoding | Comments |
|----------------|---|------------------|----------|
| spare          | '0000'B                                       |                  |          |
| ILC_SAPI_Value | ('0000'B, '0011'B, '0101'B, '1001'B, '1011'B) |                  |          |

**Detailed Comments:** 

## **Structured Type Constraint Declaration**

Constraint Name : cr\_MS\_NetworkCap\_tlv\_Any

Group :

Structured Type : MS\_NetworkCap\_tlv

Derivation Path : Encoding Variation : Comments :

| Element Name        | Element Value | Element Encoding | Comments                                   |
|---------------------|---------------|------------------|--|
| iei                 | '00110001'B   |                  | '00110001'B (hex 31)                       |
| iel                 | ?             |                  |  |
| value               | ?             |                  | MS network capability value (CSN.1 coding) |
| Detailed Comments : | •             |                  |  |

# **Structured Type Constraint Declaration**

Constraint Name : cr\_MS\_NetworkCapAss\_lv

Group :

Structured Type : MS\_NetworkCap\_lv

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments                                   |
|--------------|---------------|------------------|--|
| iel          | ?             |                  |  |
| value        | ?             |                  | MS network capability value (CSN.1 coding) |

Constraint Name : cr\_NSAPI\_v

Group :

Structured Type : NSAPI\_v

Derivation Path : Encoding Variation :

Comments : Received value of NSAPI

| Element Name        | Element Value  | Element Encoding | Comments |
|---------------------|--|------------------|----------|
| spare               | '0000'B  |                  |          |
| nSAPI_Value         | ('0101'B, '0110'B, '0111'B,<br>'1000'B, '1001'B, '1010'B,<br>'1011'B, '1100'B, '1101'B,<br>'1110'B, '1111'B) |                  |          |
| Detailed Comments : | '1110'B, '1111'B)  |                  |          |

**Structured Type Constraint Declaration** 

Constraint Name : cr\_PDP\_ContextStatusAny

Group :

Structured Type : PDP\_ContextStatus

Derivation Path : Encoding Variation :

**Comments**: to be used in ROUTINGAREAUPDATEREQUEST constraints

| Element Name        | Element Value | Element Encoding | Comments    |  |
|---------------------|---------------|------------------|-------------|--|
| iei                 | '00110010'B   |                  | '00110010'B |  |
| iel                 | ?             |                  | Unit        |  |
| nSAPI               | ?             |                  | Timer value |  |
| Detailed Comments : |               |                  |             |  |

**Structured Type Constraint Declaration** 

Constraint Name : cr\_ProtoCfgOptAny

Group :

Structured Type : ProtoCfgOpt

Derivation Path : Encoding Variation : Comments :

| Element Name       | Element Value | Element Encoding | Comments |
|--------------------|---------------|------------------|----------|
| iei                | '00100111'B   |                  | 270      |
| length             | ?             |                  |          |
| ext                | ?             |                  |          |
| spare              | ?             |                  |          |
| configprotocol     | ?             |                  |          |
| protocolldContents | *             |                  |          |
|                    |               |                  |          |

Constraint Name : cr\_PS\_LCS\_CapabilityAny

Group

Structured Type : PS\_LCS\_Capability

**Derivation Path Encoding Variation:** 

Comments

: PS LCS Capability 3GPP 24.008 / 10.5.5.22

| Element Name       | Element Value | Element Encoding | Comments             |
|--------------------|---------------|------------------|----------------------|
| iei                | '00110011'B   |                  | '00110011'B (33 hex) |
| iel                | '01'O         |                  |                      |
| spare              | '000'B        |                  |                      |
| oTD_A              | ?             |                  |                      |
| oTD_B              | ?             |                  |                      |
| gPS_A              | ?             |                  |                      |
| gPS_B              | ?             |                  |                      |
| gPS_C              | ?             |                  |                      |
| Put la LOuvernante |               |                  |                      |

Constraint Name : cr\_QualityOfService\_lv\_Any

Group :

Structured Type : QualityOfService\_lv

Derivation Path : Encoding Variation : Comments :

| Element Name        | Element Value | Element Encoding | Comments |
|---------------------|---------------|------------------|----------|
| length              | ?             |                  |          |
| spare               | ?             |                  |          |
| dlyClass            | ?             |                  |          |
| relabilityClass     | ?             |                  |          |
| peakThroughput      | ?             |                  |          |
| spare1              | ?             |                  |          |
| precedenceClass     | ?             |                  |          |
| spare2              | ?             |                  |          |
| meanThroughput      | ?             |                  |          |
| trafficClass        | ?             |                  |          |
| deliveryOrder       | ?             |                  |          |
| deliveryErrorSDU    | ?             |                  |          |
| maxSDUSize          | ?             |                  |          |
| maxBitRateUplink    | ?             |                  |          |
| maxBitRateDnlink    | ?             |                  |          |
| residualBER         | ?             |                  |          |
| sduErrRatio         | ?             |                  |          |
| transDly            | ?             |                  |          |
| trafficHandpro      | ?             |                  |          |
| bitRateUplink       | ?             |                  |          |
| bitRateDnlink       | ?             |                  |          |
| spare3              | *             |                  |          |
| signallingInd       | *             |                  |          |
| srcStatsDescr       | *             |                  |          |
| maxBitRateDnlinkExt | *             |                  |          |
| bitRateDnlinkExt    | *             |                  |          |
| Detailed Comments : |               |                  |          |

Constraint Name : cr\_SS\_VersionIndAny

Group :

Structured Type : SS\_VersionInd

Derivation Path : Encoding Variation :

Comments : SS version indicator IE with AnyOrOmit values

| Element Name   | Element Value | Element Encoding | Comments |
|----------------|---------------|------------------|----------|
| iei            | '01111111'B   |                  |          |
| iel            | ?             |                  |          |
| sS_VersionInfo | *             |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : cr\_StaticPDP\_AddressAny

Group :

Structured Type : PktDataProtoAddr\_lv

Derivation Path : Encoding Variation : Comments :

| Element Name              | Element Value | Element Encoding | Comments |
|---------------------------|---------------|------------------|----------|
| length                    | ?             |                  |          |
| spare                     | '0000'B       |                  |          |
| pDP_TypeOrg               | ?             |                  |          |
| pDP_TypeOrg<br>pDP_TypeNo | ?             |                  |          |
| addrInfo                  | *             |                  |          |
| Detailed Comments :       |               |                  |          |

**Detailed Comments:** 

# **Structured Type Constraint Declaration**

Constraint Name : cr\_StreamIdAny

Group :

Structured Type : Streamld

Derivation Path :
Encoding Variation :
Comments :

| Element Name | Element Value | Element Encoding | Comments |
|--------------|---------------|------------------|----------|
| iei          | '00101101'B   |                  |          |
| iel          | ?             |                  |          |
| val          | ?             |                  |          |
|              |               |                  |          |

Constraint Name : cr\_SubadrsAny

Group :

Structured Type : Subadrs

Derivation Path : Encoding Variation : Comments :

| Element Name  | Element Value | Element Encoding | Comments               |
|---------------|---------------|------------------|------------------------|
| extBit        | ?             |                  | extension bit          |
| typrOfSubadrs | ?             |                  | Type of subaddress     |
| oddEven       | ?             |                  | odd/even indicator     |
| spare3        | ?             |                  | 3 spare bits           |
| subadrsInfo   | *             |                  | subaddress information |
|               |               |                  |                        |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_TearDwnInd\_tv

Group :

Structured Type : TearDwnInd\_tv

Derivation Path : Encoding Variation :

**Comments**: Tear down indicator used for the direction

ue -> n

| Element Name | Element Value | Element Encoding | Comments  |
|--------------|---------------|------------------|---|
| iei          | '1001'B       |                  |   |
| spare        | '000'B        |                  |   |
| tdiflag      | '?'B          |                  | TDI Flag = 0, Tear down of all PDP Context not requested. TDI Flag = 1, Tear down of all PDP Context requested. |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_Tl\_Any

Group : Structured Type : TI
Derivation Path : Encoding Variation :

Comments : Transaction identifier – used for MO calls

| Element Name | Element Value | Element Encoding | Comments           |
|--------------|---------------|------------------|--------------------|
| tiFlag       | ?             |                  | from network to MS |
| tiVal        | ?             |                  |                    |

Constraint Name : cr\_TI\_MO

Group : Structured Type : TI
Derivation Path : Encoding Variation :

**Comments**: Transaction identifier – used for MO calls

| Element Name | Element Value | Element Encoding | Comments           |
|--------------|---------------|------------------|--------------------|
| tiFlag       | '0'B          |                  | from network to MS |
| tiVal        | ?             |                  |                    |

**Detailed Comments:** 

**Structured Type Constraint Declaration** 

Constraint Name : cr\_TypeOfNumPlanAny

Group :

Structured Type : TypeOfNumPlan

Derivation Path : Encoding Variation : Comments :

| Element Name | Element Value | Element Encoding | Comments           |
|--------------|---------------|------------------|--------------------|
| extBit       | ?             |                  | extension bit      |
| typeOfNum    | ?             |                  | Type of number     |
| numbPlanId   | ?             |                  | Numbering plan id. |

**Detailed Comments:** 

## **Structured Type Constraint Declaration**

Constraint Name : cr\_UserUserAny

Group :

Structured Type : UserUser

Derivation Path : Encoding Variation : Comments :

| Element Name          | Element Value | Element Encoding | Comments                            |
|-----------------------|---------------|------------------|-------------------------------------|
| iei                   | '01111110'B   |                  | information element identifier      |
| iel                   | ?             |                  | length                              |
| userUserProtocolDiscr | ?             |                  | user–user protocol<br>discriminator |
| userUserInfo          | *             |                  | user user information               |

Detailed Comments: In SETUP, ALERTING, CONNECT, DISCONNECT, RELEASE and RELEASE COMPLETE

messages the userUserInfo length is of 0 – 32 bytes.

In USER INFORMATION messages the userUserInfo length is of 1 – 128.

Constraint Name : c\_PowerOffsetInfoBelow64k

Group

**ASN1 Type** : PowerOffsetInformation

Derivation Path : Encoding Variation : Comments :

#### **Constraint Value**

```
{
    gainFactorInformation signalledGainFactors:{
        modeSpecificInfo fdd:{
            gainFactorBetaC tsc_GainFactorBetaC_Below64k
        },
        gainFactorBetaD tsc_GainFactorBetaD,
        referenceTFC_ID 0
    },
    powerOffsetPp_m OMIT
```

#### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_PowerOffsetInfoComputed

Group

**ASN1 Type** : PowerOffsetInformation

Derivation Path : Encoding Variation : Comments :

#### **Constraint Value**

{
 gainFactorInformation computedGainFactors : 0,
 powerOffsetPp\_m OMIT
}

Constraint Name : c\_PowerOffsetInfoHigher64k

Group

**ASN1 Type** : PowerOffsetInformation

Derivation Path : Encoding Variation : Comments :

#### **Constraint Value**

```
{
    gainFactorInformation signalledGainFactors:{
        modeSpecificInfo fdd:{
            gainFactorBetaC tsc_GainFactorBetaC_Higher64k
        },
        gainFactorBetaD tsc_GainFactorBetaD,
        referenceTFC_ID 0
        },
        powerOffsetPp_m OMIT
    }
```

Constraint Name : cbs\_DefaultRLC\_InfoAM

Group :

ASN1 Type : RLC\_Info

Derivation Path : Encoding Variation :

**Comments**: This constraint is used within the radio bearer setup procedure as the default

configuration for the UE AM RLC entity, as defined in 3G TS 34.123-1, clause

7.2.3.1.

This constraint is intended to be used as a base constraint, and modified constraints can be used to alter specific fields as required by any test

purposes that do not use the default configuration.

#### **Constraint Value**

```
ul_RLC_Mode ul_AM_RLC_Mode:{
 transmissionRLC_Discard maxDAT_Retransmissions: {
  maxDAT dat4,
  timerMRW te500.
  maxMRW mm4
 transmissionWindowSize tw128,
 timerRST tr500,
 max_RST rst4,
 pollingInfo {
  timerPollProhibit OMIT,
  timerPoll OMIT,
  poll_PDU OMIT,
  poll_SDU OMIT,
  lastTransmissionPDU Poll TRUE,
  lastRetransmissionPDU_Poll TRUE,
  pollWindow OMIT.
  timerPollPeriodic OMIT
dl_RLC_Mode dl_AM_RLC_Mode:{
 inSequenceDelivery TRUE,
 receivingWindowSize rw128,
 dl_RLC_StatusInfo {
  timerStatusProhibit OMIT,
  dummy OMIT,
  missingPDU_Indicator TRUE,
  timerStatusPeriodic OMIT
}
```

Constraint Name : cbs\_DefaultRLC\_InfoUM

Group :

ASN1 Type : RLC\_Info

Derivation Path : Encoding Variation :

**Comments**: This constraint is used within the radio bearer setup procedure as the default

configuration for the UE UM RLC entity.

This constraint is intended to be used as a base constraint, and modified constraints can be used to alter specific fields as required by any test

purposes that do not use the default configuration.

#### **Constraint Value**

```
{
    ul_RLC_Mode ul_UM_RLC_Mode: {
        transmissionRLC_Discard OMIT
    },
    dl_RLC_Mode dl_UM_RLC_Mode: NULL
}
```

**Detailed Comments:** 

#### **ASN.1 Type Constraint Declaration**

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_2\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.2

#### **Constraint Value**

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw16

 $REPLACE\ dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize$ 

BY rw16

**Detailed Comments**: reduction of the window size to bring down RLC buffer requirements

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_12

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.12

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw128.

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU

BY pdu64,

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize

BY rw128

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_13\_Run1

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case 7.2.3.13

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw8

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_13\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.13

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw128

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_14\_Run1

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.14

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw8.

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize

BY rw8.

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.missingPDU\_Indicator

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_14\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.14

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize$ 

BY tw128

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize

BY rw128,

 $REPLACE\ dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.missingPDU\_Indicator$ 

BY FALSE

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_15\_Run1

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.15

**Constraint Value** 

 $OMIT\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit,$ 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY TRUE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_15\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.15

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit

BY tpp200,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY TRUE

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Po$ 

BY FALSE

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_16\_Run1

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.16

**Constraint Value** 

 $OMIT\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit,$ 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY TRUE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_16\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.16

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit$ 

BY tpp200,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE.

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY TRUE

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_17

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.17

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU

BY pdu4,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_18\_Run1

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.18

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_SDU

BY sdu1,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_18\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

Comments : This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.18

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_SDU

BY sdu16,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_19\_Run1

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.19

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic$ 

BY tper500,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_19\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.19

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic$ 

BY tper2000,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_PollingInfo.lastTransmis$ 

BY FALSE,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll$ 

BY FALSE

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_20

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.20

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.pollWindow$ 

BY pw50,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw8,

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize

BY rw8

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_21\_Run1

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.21

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize$ 

BY tw256,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll$ 

BY tp600,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic

BY tper2000

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_21\_Run2

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.21

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw256.

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll

BY tp1000,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic

BY tper2000

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_22\_Run1

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the first execution of test case

7.2.3.22

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw256,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll$ 

BY tp500,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic

BY tper2000

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_22\_Run2

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for the second execution of test case

7.2.3.22

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw256,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll

BY tp1000,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic BY tper2000

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_23

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.23

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastRetransmissionPDU\_Poll

BY FALSE

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_PollingInfo.lastTransmis$ 

BY FALSE,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll$ 

BY tp600,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU

BY pdu16,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.pollWindow$ 

BY pw60,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize

BY tw32

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_24

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.24

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit

BY tpp500,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.lastTransmissionPDU\_Poll

BY FALSE,

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU

BY pdu2

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.pollWindow$ 

BY pw50,

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionWindowSize$ 

BY tw32,

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.receivingWindowSize

BY rw128

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_26

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.26

**Constraint Value** 

 $REPLACE\ dl\_RLC\_Mode. dl\_AM\_RLC\_Mode. dl\_RLC\_StatusInfo. timerStatusPeriodic$ 

BY tsp400

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_27

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.27

**Constraint Value** 

 $REPLACE\ dl\_RLC\_Mode. dl\_AM\_RLC\_Mode. dl\_RLC\_StatusInfo. timerStatusProhibit$ 

BY tsp500,

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.timerStatusPeriodic

BY tsp200

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_28

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.28

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU

BY pdu4

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_33

Group

ASN1 Type : RLC\_Info

**Derivation Path** : cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.33

**Constraint Value** 

REPLACE ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionRLC\_Discard

BY noDiscard: dat4

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_34

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.34

**Constraint Value** 

 $REPLACE\ ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.transmissionRLC\_Discard$ 

BY noDiscard: dat4

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_5

Group :

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

**Comments**: This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.5

**Constraint Value** 

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.missingPDU\_Indicator

BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cds\_RLC\_InfoAM\_7\_2\_3\_6

Group

ASN1 Type : RLC\_Info

**Derivation Path**: cbs\_DefaultRLC\_InfoAM.

**Encoding Variation:** 

Comments : This derived constraint is used to replace the default values in clause 7.2.3.1

with specific parameters as required for execution of test case 7.2.3.6

**Constraint Value** 

REPLACE dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.missingPDU\_Indicator

BY FALSE

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.3cm} c\_RB\_InfoReconfigList\_RLC\_7\_2\_3\_35(p\_RAB\_Id:RB\_Identity)$ 

Group

**ASN1 Type** : RB\_InformationReconfigList

Derivation Path : Encoding Variation :

Comments : SRB1 to SRB4 and RB20 as required for tc\_7\_2\_3\_35

### **Constraint Value**

```
{
  rb_Identity tsc_RB1,
  pdcp_Info OMIT,
  pdcp_SN_Info OMIT,
  rlc_Info OMIT,
  rb_MappingInfo OMIT,
  rb_StopContinue OMIT
  rb_Identity tsc_RB2,
  pdcp_Info OMIT,
  pdcp_SN_Info OMIT,
  rlc_Info OMIT,
  rb_MappingInfo OMIT,
  rb_StopContinue OMIT
  rb_Identity tsc_RB3,
  pdcp_Info OMIT,
  pdcp_SN_Info OMIT,
  rlc Info OMIT,
  rb_MappingInfo OMIT,
  rb_StopContinue OMIT
  rb_Identity tsc_RB4,
  pdcp_Info OMIT,
  pdcp_SN_Info OMIT,
  rlc_Info OMIT,
  rb_MappingInfo OMIT,
  rb_StopContinue OMIT
  rb_Identity p_RAB_Id,
  pdcp_Info OMIT,
  pdcp_SN_Info OMIT,
  rlc Info
   ul\_RLC\_Mode\ ul\_AM\_RLC\_Mode: cd\_UL\_AM\_RLC\_SRB\_RLC\_7\_2\_3\_35\ ,
   dl_RLC_Mode dl_AM_RLC_Mode :
    inSequenceDelivery TRUE,
    receivingWindowSize rw128,
    dl_RLC_StatusInfo
    {
     timerStatusProhibit tsp500,
     -- timerEPC OMIT
     missingPDU_Indicator TRUE,
     timerStatusPeriodic tsp200
  rb_MappingInfo OMIT,
  rb_StopContinue OMIT
```

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```
ASN.1 Type Constraint Declaration

Constraint Value

}

Detailed Comments:
```

# **ASN.1 Type Constraint Declaration**

Constraint Name : cd\_UL\_AM\_RLC\_SRB\_RLC\_7\_2\_3\_35

Group :

ASN1 Type : UL\_AM\_RLC\_Mode
Derivation Path : cb\_UL\_AM\_RLC.

**Encoding Variation:** 

**Comments**: as required for tc\_7\_2\_3\_35

### **Constraint Value**

REPLACE max\_RST BY rst4,

REPLACE pollingInfo. timerPollProhibit BY OMIT,

REPLACE pollingInfo.timerPoll BY tp600,

REPLACE pollingInfo.poll\_PDU BY OMIT,

REPLACE pollingInfo.poll\_SDU BY OMIT,

REPLACE pollingInfo.lastTransmissionPDU\_Poll BY FALSE,

REPLACE pollingInfo.lastRetransmissionPDU\_Poll BY FALSE,

REPLACE pollingInfo.pollWindow BY OMIT,

REPLACE pollingInfo.timerPollPeriodic BY tper1000

**Detailed Comments:** 

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_AICH\_Info

Group :

ASN1 Type : AICH\_Info

Derivation Path : Encoding Variation :

**Comments**: no transmission diversity, AICH timing = e0

### **Constraint Value**

{
 channelisationCode256 tsc\_AICH1\_ChC,
 sttd\_Indicator FALSE,
 aich\_TransmissionTiming e0

**Constraint Name**: c\_DCH\_1344\_148\_DL\_InfoRLC(p\_ActTime : ActivationTime)

Group :

**ASN1 Type** : CphyTrchConfigReq

coding = turbo; CRCsize = 16; RateMatching = 130

Derivation Path : Encoding Variation :

**Comments**: SS CPHY DL transport channel configuration for RLC tests using 1344 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.2, and 6.11.4.

### **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList OMIT,
 ulTFCS OMIT,
 dlconnectedTrCHList {
   trchid tsc_DL_DCH1,
   dl TransportChannelType dch,
   transportChannelInfo c_DCH_1344_TFS_RLC
   trchid tsc_DL_DCH5,
   dl_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_DL
 dlTFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k ) --- sent to SS
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                       TTI = 40 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                       coding = convolutional;
                       coding rate = 1/3;
                       CRCsize = 16;
                       RateMatching = 155.
                       For DCH1(3G TS 34.108 cl. 6.11.2 and 6.11.4):
                       TTI = 20 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 1344 bits; TansportBlock = 0, Size = 1344.
```

**Constraint Name**: c\_DCH\_1344\_148\_UL\_InfoRLC(p\_ActTime : ActivationTime)

RateMatching = 130

Group :

**ASN1 Type** : CphyTrchConfigReq

Derivation Path : Encoding Variation :

**Comments** : SS UL transport channel configuration for RLC tests using 1344 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.2, and 6.11.4.

### **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList {
   trchid tsc_UL_DCH1,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_1344_TFS_RLC
   trchid tsc_UL_DCH5,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_UL
 },
 ulTFCS c_TFCS_Cmpl0_1_2_3_Rx, -- sent to SS
 dlconnectedTrCHList OMIT,
 dITFCS OMIT
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                       TTI = 40 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                       coding = convolutional;
                       coding rate = 1/3;
                       CRCsize = 16;
                       RateMatching = 155.
                       For DCH1 (3G TS 34.108 cl. 6.11.2 and 6.11.4):
                       TTI = 20 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 1344 bits; TansportBlock = 0, Size = 1344
                       coding = turbo;
                       CRCsize = 16;
```

Constraint Name : c\_DCH\_1344\_TFS\_RLC

Group :

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

Comments : DCH1 Transport format set for RLC tests using 15 bit length indicators.

Reference 3G TS 34.108, clause 6.11.2, and 6.11.4.

### **Constraint Value**

```
{
  tti tti20 :{
     { tb_Size 1344,
          numberOfTbSizeList{ zero : NULL, one : NULL},
          logicalChannelList allSizes : NULL
     }
  },
  semistaticTF_Information {
     channelCodingType turbo: NULL,
     rateMatchingAttribute 130,
     crc_Size crc16
  }
}
```

**Detailed Comments**: TTI = 20 ms;

2 transport formats: TB size always=1344 bits; TransportBlocks = 0, and 1;

Constraint Name : c\_DCH\_1344\_TFS\_RLC\_UE

Group :

**ASN1 Type** : DedicatedTransChTFS

Derivation Path : Encoding Variation :

**Comments**: DCH1 Transport format set for RLC tests using 15 bit length indicators used in message sent to

UE.

Reference 3G TS 34.108, clause 6.11.2, and 6.11.4.

### **Constraint Value**

```
tti tti20 :{
   rlc_Size octetModeType1:
   sizeType3:{
    part1 4,
    part2 6
   numberOfTbSizeList{
    zero: NULL, one: NULL
   logicalChannelList allSizes: NULL
 }},
 semistaticTF_Information {
  channelCodingType turbo: NULL,
  rateMatchingAttribute 130,
  crc_Size crc16
Detailed Comments: For sizeType2, Actual size = (32 * part1) + 272 + (part2 * 8) = 32*33 + 272 + 2*8 = 1344
                       TTI = 20 \text{ ms};
                       2 transport formats: TB size always=1344 bits; TransportBlocks = 0, and 1;
                       rlc_Size = TB_Size ( DCH, w/o MUX)
                       coding = turbo;
                       CRCsize = 16;
                       RateMatching = 130
```

**Constraint Name**: c\_DCH\_144\_148\_DL\_InfoRLC\_AM(p\_ActTime : ActivationTime)

Group :

**ASN1 Type** : CphyTrchConfigReq

Derivation Path : Encoding Variation :

**Comments**: SS CPHY DL transport channel configuration for RLC tests using 144 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.3.

coding = turbo; CRCsize = 16; RateMatching = 130

### **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList OMIT,
 ulTFCS OMIT,
 dlconnectedTrCHList {
   trchid tsc_DL_DCH1,
   dl_TransportChannelType dch,
   transportChannelInfo c_DCH_144_TFS_RLC_AM
   trchid tsc_DL_DCH5,
   dl_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_DL
 dlTFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k )
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                       TTI = 40 \text{ ms};
                      two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                      coding = convolutional;
                      coding rate = 1/3;
                      CRCsize = 16;
                      RateMatching = 155.
                      For DCH1 (3G TS 34.108 cl. 6.11.1 and 6.11.3):
                       TTI = 20 \text{ ms};
```

two transport formats: TransportBlocks = 1, TB size = 336 bits; TansportBlock = 0, Size = 336.

**Constraint Name**: c\_DCH\_144\_148\_UL\_InfoRLC\_AM (p\_ActTime : ActivationTime)

Group :

**ASN1 Type** : CphyTrchConfigReq

Derivation Path : Encoding Variation :

**Comments**: SS UL transport channel configuration for RLC tests using 336 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.3,

### **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList {
   trchid tsc_UL_DCH1,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_144_TFS_RLC_AM
   trchid tsc_UL_DCH5,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_UL
 },
 ulTFCS c_TFCS_Cmpl0_1_2_3_Rx, -- sent to SS
 dlconnectedTrCHList OMIT,
 dITFCS OMIT
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                      TTI = 40 \text{ ms};
                      two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                      coding = convolutional;
                      coding rate = 1/3;
                      CRCsize = 16;
                      RateMatching = 155.
                      For DCH1 (3G TS 34.108 cl. 6.11.1 and 6.11.3):
```

TTI = 20 ms;

two transport formats: TransportBlocks = 1, TB size = 336 bits; TansportBlock = 0, Size = 336 bits

Constraint Name : c\_DCH\_144\_TFS\_RLC\_AM

Group

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

**Comments**: DCH1 Transport format set for RLC UM tests using 7 bit length indicators.

Reference 3G TS 34.108, clause 6.11.1,

Note that the TFS for DCH1 is restricted to {0x336, 1x336} for RLC testing with 7 bit length

indicators.

### **Constraint Value**

```
{
  tti tti20 :{
     {
          tb_Size 144,
          numberOfTbSizeList{ zero : NULL, one : NULL},
          logicalChannelList allSizes : NULL
     }
   },
   semistaticTF_Information {
        channelCodingType convolutional: third,
        rateMatchingAttribute 155,
        crc_Size crc16
   }
}
```

**Detailed Comments**: TTI = 20 ms;

2 transport formats: TB size always=336 bits; TransportBlocks = 0, and 1;

Constraint Name : c\_DCH\_144\_TFS\_RLC\_UE\_AM

Group :

ASN1 Type : DedicatedTransChTFS

Derivation Path : Encoding Variation :

Comments : DCH1 Transport format set for RLC tests using 7 bit length indicators used in message sent to

UE.

Reference 3G TS 34.108, clauseand 6.11.3.

### **Constraint Value**

```
{
  tti tti20 :{
    {
      rlc_Size octetModeType1 :
        sizeType1 : 16, --Actual value = 16*8 +16 =144
        numberOfTbSizeList{
           zero : NULL , one : NULL
      },
      logicalChannelList allSizes : NULL
    }},
    semistaticTF_Information {
        channelCodingType convolutional: third,
        rateMatchingAttribute 155,
        crc_Size crc16
    }
}
```

**Detailed Comments**: TTI = 20 ms;

2 transport formats:

TB size always=336 bits; TransportBlocks = 0, and 1;

rlc\_Size = TB\_Size (DCH, w/o MUX)

Constraint Name : c\_DCH\_148\_TFS\_DL

Group :

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for signalling bearer on dedicated channel

### **Constraint Value**

```
{
    tti tti40 :{{ tb_Size 148,
        numberOfTbSizeList { zero : NULL, one : NULL},
        logicalChannelList allSizes : NULL
    }},
    semistaticTF_Information {
        channelCodingType convolutional :third,
        rateMatchingAttribute 170,
        crc_Size crc16
    }
}
```

**Detailed Comments**: TS 34.108 cl. 6.10.2.4.1.2:

TTI = 40 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU size =148 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 170

### **ASN.1 Type Constraint Declaration**

Constraint Name : c\_DCH\_148\_TFS\_UE\_UL

Group

**ASN1 Type** : DedicatedTransChTFS

Derivation Path : Encoding Variation :

Comments : transport format set for signalling bearer on dedicated channel used in message sent to UE

## **Constraint Value**

```
{
    tti tti40 :{{ rlc_Size bitMode : sizeType2 : {part1 2, part2 OMIT},
        numberOfTbSizeList { zero : NULL, one : NULL},
        logicalChannelList allSizes : NULL
    }},
    semistaticTF_Information {
        channelCodingType convolutional :third,
        rateMatchingAttribute 170,
        crc_Size crc16
    }
}
```

**Detailed Comments**: TS 34.108 cl. 6.10.2.4.1.2:

TTI = 40 ms;

two transport formats:

TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148. rlc\_Size = RLC PDU size = TB\_Size -4 = 144 bits.( DCH, w/ MUX)

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 170

Constraint Name : c\_DCH\_148\_TFS\_UL

Group :

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for signalling bearer on dedicated channel

### **Constraint Value**

```
{
  tti tti40 :{{ tb_Size 148,
      numberOfTbSizeList { zero : NULL, one : NULL},
      logicalChannelList allSizes : NULL
  }},
  semistaticTF_Information {
      channelCodingType convolutional :third,
      rateMatchingAttribute 170,
      crc_Size crc16
  }
}
```

**Detailed Comments**: TS 34.108 cl. 6.10.2.4.1.2:

TTI = 40 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU size =148 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 170

### **ASN.1 Type Constraint Declaration**

Constraint Name : c\_DCH\_148\_TTI\_10\_TFS

Group

ASN1 Type : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for signalling bearer on dedicated channel

## **Constraint Value**

```
{
    tti tti10 :{{ tb_Size 148,
        numberOfTbSizeList { zero : NULL, one : NULL},
        logicalChannelList allSizes : NULL
    }},
    semistaticTF_Information {
        channelCodingType convolutional :third,
        rateMatchingAttribute 192, — dummy value, value is not needed for 13.6 kbps
        crc_Size crc16
    }
}
```

**Detailed Comments :** TS 34.108 cl. 6.10.2.4.1.3:

TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU size =148 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16;

RateMatching = 192 (dummy value, value is not needed for 13.6 kbps)

Constraint Name : c\_DCH\_148\_TTI\_10\_TFS\_UE

Group :

ASN1 Type : DedicatedTransChTFS

Derivation Path : Encoding Variation :

Comments : transport format set for signalling bearer on dedicated channel used in message sent to UE

### **Constraint Value**

```
{
tti tti10 :{{ rlc_Size bitMode : sizeType2 : {part1 2, part2 OMIT},
    numberOfTbSizeList { zero : NULL, one : NULL},
    logicalChannelList allSizes : NULL
}},
semistaticTF_Information {
    channelCodingType convolutional :third,
    rateMatchingAttribute 192, -- dummy value, value is not needed for 13.6 kbps
    crc_Size crc16
}
```

**Detailed Comments**: TS 34.108 cl. 6.10.2.4.1.3:

TTI = 10 ms;

two transport formats:

TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148. rlc\_Size = RLC PDU size = TB\_Size -4 = 144 bits.( DCH, w/ MUX)

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 192

**Constraint Name**: c\_DCH\_336\_148\_DL\_InfoRLC\_UM(p\_ActTime : ActivationTime)

Group :

**ASN1 Type** : CphyTrchConfigReq

Derivation Path : Encoding Variation :

**Comments**: SS CPHY DL transport channel configuration for RLC tests using 336 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.1, and 6.11.3.

Note that the TFS for DCH1 is restricted to {0x336, 1x336} for RLC testing.

### **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList OMIT,
 ulTFCS OMIT,
 dlconnectedTrCHList {
   trchid tsc DL DCH1,
   dl_TransportChannelType dch,
   transportChannelInfo c_DCH_336_TFS_RLC_UM
   trchid tsc_DL_DCH5,
   dl_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_DL
 dlTFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k )
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                       TTI = 40 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                       coding = convolutional;
                       coding rate = 1/3;
                       CRCsize = 16;
                       RateMatching = 155.
                       For DCH1 (3G TS 34.108 cl. 6.11.1 and 6.11.3):
                       TTI = 20 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 336 bits; TansportBlock = 0, Size = 336.
                       coding = turbo;
                       CRCsize = 16;
                       RateMatching = 130
```

**Constraint Name**: c\_DCH\_336\_148\_UL\_InfoRLC\_UM (p\_ActTime : ActivationTime)

Group :

**ASN1 Type** : CphyTrchConfigReq

Derivation Path : Encoding Variation :

**Comments**: SS UL transport channel configuration for RLC tests using 336 bit transport blocks.

Reference 3G TS 34.108, clause 6.11.1,

Note that the TFS for DCH1 is restricted to {0x336, 1x336} for RLC testing.

## **Constraint Value**

```
activationTime activationCFN: p_ActTime,
 ulconnectedTrCHList {
   trchid tsc_UL_DCH1,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_336_TFS_RLC_UM
   trchid tsc_UL_DCH5,
   ul_TransportChannelType dch,
   transportChannelInfo c_DCH_148_TFS_UL
 ulTFCS c_TFCS_Cmpl0_1_2_3_Rx, -- sent to SS
 dlconnectedTrCHList OMIT,
 dITFCS OMIT
Detailed Comments: For DCH5 (3G TS 34.108, 6.10.2.4.1.2)
                       TTI = 40 \text{ ms};
                       two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                       coding = convolutional;
                       coding rate = 1/3;
                       CRCsize = 16;
                       RateMatching = 155.
                       For DCH1 (3G TS 34.108 cl. 6.11.1 and 6.11.3):
                       TTI = 20 \text{ ms}:
                       two transport formats: TransportBlocks = 1, TB size = 336 bits; TansportBlock = 0, Size = 336 bits
                       coding = turbo;
                       CRCsize = 16;
                       RateMatching = 130
```

Constraint Name : c\_DCH\_336\_TFS\_RLC\_UE\_UM

Group :

ASN1 Type : DedicatedTransChTFS

Derivation Path : Encoding Variation :

Comments : DCH1 Transport format set for RLC tests using 7 bit length indicators used in message sent to

UE.

Reference 3G TS 34.108, clause 6.11.1, and 6.11.3.

Note that the TFS for DCH1 is restricted to {0x336, 1x336} for RLC testing with 7 bit length

indicators.

## **Constraint Value**

```
{
  tti tti40 :{
    {
      rlc_Size octetModeType1 :
        sizeType2 : {
           part1 2,
           part2 OMIT
      },
      numberOfTbSizeList{
           zero : NULL , one : NULL
      },
      logicalChannelList allSizes : NULL
    }},
    semistaticTF_Information {
      channelCodingType convolutional: third,
      rateMatchingAttribute 155,
      crc_Size crc16
    }
}
```

**Detailed Comments**: TTI = 20 ms;

2 transport formats:

TB size always=336 bits; TransportBlocks = 0, and 1;

rlc\_Size = TB\_Size (DCH, w/o MUX)

# **ASN.1 Type Constraint Declaration Constraint Name** : c\_DCH\_336\_TFS\_RLC\_UM Group

**Derivation Path Encoding Variation:** 

**ASN1 Type** 

Comments : DCH1 Transport format set for RLC UM tests using 7 bit length indicators.

Reference 3G TS 34.108, clause 6.11.1,

Note that the TFS for DCH1 is restricted to {0x336, 1x336} for RLC testing with 7 bit length

: CommonOrDedicatedTFS

### **Constraint Value**

```
tti tti40 :{
  tb_Size 336,
  numberOfTbSizeList{ zero : NULL, one : NULL},
  logicalChannelList allSizes: NULL
},
semistaticTF_Information {
 channelCodingType convolutional: third,
 rateMatchingAttribute 155,
 crc_Size crc16
```

**Detailed Comments**: TTI = 20 ms;

2 transport formats: TB size always=336 bits; TransportBlocks = 0, and 1;

coding = turbo; CRCsize = 16; RateMatching = 130

# **ASN.1 Type Constraint Declaration**

: c\_DL\_AddReconfTransChInfo ( **Constraint Name** 

p\_DITrChId:TransportChannelIdentity; p\_UITrChld:TransportChannelIdentity

Group

**ASN1 Type** : DL\_AddReconfTransChInformation

**Derivation Path Encoding Variation:** Comments

### **Constraint Value**

```
dl_TransportChannelType dch,
dl\_transportChannelIdentity~p\_DlTrChId,
tfs_SignallingMode sameAsULTrCH:
 ul_TransportChannelType dch,
 ul_TransportChannelIdentity p_UITrChId
dch_QualityTarget{
 bler_QualityValue -20
}
```

```
ASN.1 Type Constraint Declaration
Constraint Name : c_DL_AddReconfTransChInfo2 (
                    p_DITrChld:TransportChannelIdentity;
                    p_UITrChld:TransportChannelIdentity
Group
ASN1 Type
                  : DL_AddReconfTransChInformation2
Derivation Path
Encoding Variation:
Comments
                                                Constraint Value
 dl_TransportChannelType dch,
 transportChannelIdentity p_DITrChId,
 tfs_SignallingMode sameAsULTrCH:
  ul_TransportChannelType dch,
  ul_TransportChannelIdentity p_UITrChId
 qualityTarget OMIT
Detailed Comments:
```

# ASN.1 Type Constraint Declaration Constraint Name : c\_DL\_AddReconfTransChInfoList2RLC

Group :

ASN1 Type : DL\_AddReconfTransChInfo2List

Derivation Path : Encoding Variation :

**Comments** : DL transport channel information list for RLC tests.

DCH1 is used for the DTCH RAB for testing, and DCH5 is used for the RRC connection SRBs.

Reference 3G TS 34.108, clause 6.11.

### **Constraint Value**

```
{
    c_DL_AddReconfTransChInfo2(tsc_DL_DCH1, tsc_UL_DCH1),
    c_DL_AddReconfTransChInfo2(tsc_DL_DCH5, tsc_UL_DCH5)
}
```

**Detailed Comments:** 

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_DL\_AddReconfTransChInfoListDCCH\_SRB

Group :

ASN1 Type : DL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

{ c\_DL\_AddReconfTransChInfo(tsc\_DL\_DCH5,tsc\_UL\_DCH5) }

**Detailed Comments:** 

### **ASN.1 Type Constraint Declaration**

Constraint Name : c\_DL\_AddReconfTransChInfoListRLC

Group :

ASN1 Type : DL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation :

**Comments**: DL transport channel information list for RLC tests.

DCH1 is used for the DTCH RAB for testing, and DCH5 is used for the RRC connection SRBs.

Reference 3G TS 34.108, clause 6.11.

# Constraint Value

```
{
    c_DL_AddReconfTransChInfo(tsc_DL_DCH1, tsc_UL_DCH1),
    c_DL_AddReconfTransChInfo(tsc_DL_DCH5, tsc_UL_DCH5)
}
```

Constraint Name : c\_DL\_CommonInformationDCH\_DPCH\_Offset (p\_Sf: SF512\_AndPilot )

Group :

**ASN1 Type** : DL\_CommonInformation

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
dl_DPCH_InfoCommon{
 cfnHandling initialise : {
  cfntargetsfnframeoffset OMIT
 modeSpecificInfo fdd:{
  dl_DPCH_PowerControlInfo {
   modeSpecificInfo fdd:{
    dpc_Mode singleTPC
  },
  powerOffsetPilot_pdpdch tsc_DPCH_PowerOffsetPILOT,
  dl_rate_matching_restriction OMIT,
  spreadingFactorAndPilot p_Sf,
  positionFixedOrFlexible flexible,
  tfci_Existence TRUE
 }
modeSpecificInfo fdd:{
 defaultDPCH_OffsetValue tsc_DefaultDPCH_OffsetValue,
 dpch_CompressedModeInfo OMIT,
 tx_DiversityMode noDiversity,
 ssdt_Information OMIT
}
```

**Detailed Comments**: NOTE: not aligned with 34.108. Reason: The value 'inactive' in 34.018 is not valid with asn.1

definition v360

Constraint Name : c\_DL\_CommonInformationRB\_SetUp (p\_Sf: SF512\_AndPilot )

Group :

**ASN1 Type** : DL\_CommonInformation

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
dl_DPCH_InfoCommon{
 cfnHandling maintain :NULL,
 modeSpecificInfo fdd:{
  dl_DPCH_PowerControlInfo {
   modeSpecificInfo fdd:{
    dpc_Mode singleTPC
   }
  },
  powerOffsetPilot_pdpdch tsc_DPCH_PowerOffsetPILOT,
  dl_rate_matching_restriction OMIT,
  spreadingFactorAndPilot p_Sf,
  positionFixedOrFlexible flexible,
  tfci_Existence TRUE
}
modeSpecificInfo fdd:{
 defaultDPCH_OffsetValue OMIT,
 dpch\_CompressedModeInfo\ OMIT ,
 tx_DiversityMode noDiversity,
 ssdt_Information OMIT
```

Constraint Name : c\_DL\_CommonInformationRB\_StandAloneSRB (p\_Sf: SF512\_AndPilot )

Group :

**ASN1 Type** : DL\_CommonInformation

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
dl_DPCH_InfoCommon{
 cfnHandling maintain: NULL,
 modeSpecificInfo fdd:{
  dl_DPCH_PowerControlInfo {
   modeSpecificInfo fdd:{
    dpc_Mode singleTPC
   }
  },
  powerOffsetPilot_pdpdch tsc_DPCH_PowerOffsetPILOT,
  dl_rate_matching_restriction OMIT,
  spreadingFactorAndPilot p_Sf,
  positionFixedOrFlexible fixed,
  tfci_Existence FALSE
 }
modeSpecificInfo fdd:{
 defaultDPCH_OffsetValue OMIT,
 dpch\_CompressedModeInfo\ OMIT ,
 tx_DiversityMode noDiversity,
 ssdt\_Information\ OMIT
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_DL\_CommonTransChInfoSameAsUL

Group :

ASN1 Type : DL\_CommonTransChInfo

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
{
  sccpch_TFCS OMIT,
  modeSpecificInfo fdd:{
    dl_Parameters sameAsUL: NULL
  }
}
```

```
ASN.1 Type Constraint Declaration
Constraint Name
                  : c_DL_InfoPerRL_DPCH_Offset (
                    p_ScrmbCode : PrimaryScramblingCode ;
                    p_SecScrmbCode : SecondaryScramblingCode ;
                    p_Sf: SF512_AndCodeNumber
Group
ASN1 Type
                  : DL_InformationPerRL_List
Derivation Path
Encoding Variation:
Comments
                                                Constraint Value
{{
  modeSpecificInfo fdd : {
   primaryCPICH_Info { primaryScramblingCode p_ScrmbCode } ,
   pdsch_SHO_DCH_Info OMIT,
   pdsch_CodeMapping OMIT
  dl_DPCH_InfoPerRL fdd : {
   pCPICH_UsageForChannelEst mayBeUsed,
   dpch_FrameOffset (( (tsc_DefaultDPCH_OffsetValue*512 ) MOD 38400) / 256 ),
   -- DPCH-FrameOffset = DefaultDPCH-OffsetValueFDD MOD 38400
     Actual value DPCH-FrameOffset = IE value * 256
   -- Actual value DefaultDPCH-OffsetValueFDD = IE value * 512
   secondaryCPICH Info OMIT,
   dl_ChannelisationCodeList {{
     secondaryScramblingCode p_SecScrmbCode,
     sf_AndCodeNumber p_Sf,
     scramblingCodeChange noCodeChange
   }},
   tpc_CombinationIndex tsc_TPC_CombinationIndex,
   ssdt_CellIdentity OMIT,
   closedLoopTimingAdjMode OMIT
  sccpch_InfoforFACH OMIT
Detailed Comments:
```

Constraint Name : c\_DL\_InformationPerRL ( p\_ScrmbCode: PrimaryScramblingCode; p\_Sf:

SF512\_AndCodeNumber; p\_SecondaryScramblingCode : SecondaryScramblingCode )

Group :

ASN1 Type : DL\_InformationPerRL\_List

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
{{
  modeSpecificInfo fdd: {
   primaryCPICH_Info { primaryScramblingCode p_ScrmbCode },
   pdsch_SHO_DCH_Info OMIT,
   pdsch_CodeMapping OMIT
  dl_DPCH_InfoPerRL fdd : {
   pCPICH_UsageForChannelEst mayBeUsed,
   dpch_FrameOffset (( (tsc_DefaultDPCH_OffsetValue*512 ) MOD 38400) / 256 ),
   -- DPCH-FrameOffset = DefaultDPCH-OffsetValueFDD MOD 38400
   -- Actual value DPCH-FrameOffset = IE value * 256
   -- Actual value DefaultDPCH-OffsetValueFDD = IE value * 512
   secondaryCPICH_Info OMIT,
   dl_ChannelisationCodeList {{
     secondary Scrambling Code\ p\_Secondary Scrambling Code\ ,
     sf_AndCodeNumber p_Sf,
     scramblingCodeChange OMIT
   tpc_CombinationIndex tsc_TPC_CombinationIndex,
   ssdt_CellIdentity OMIT,
   closedLoopTimingAdjMode OMIT
  sccpch_InfoforFACH OMIT
```

**Constraint Name** : c\_FACH\_TFS

Group

**ASN1 Type** : CommonOrDedicatedTFS

**Derivation Path Encoding Variation:** 

Comments : transport format set for FACH

```
Constraint Value
```

```
tti tti10 :{ {
  tb_Size 168,
  numberOfTbSizeList { zero : NULL, one : NULL, small : 2 },
  logicalChannelList allSizes: NULL
semistaticTF_Information {
 channelCodingType convolutional: half,
 rateMatchingAttribute 220,
 crc_Size crc16
```

**Detailed Comments**: TTI = 10 ms;

three transport formats: TransportBlocks = 2, TB size = 168 bits; TransportBlocks = 1, TB size =

168 bits; TansportBlock = 0, Size = 168.

coding = convolutional;

rate = 1/2; CRCsize = 16; RateMatching = 220

## **ASN.1 Type Constraint Declaration**

**Constraint Name** : c\_FACH\_TFS\_PS

Group

**ASN1 Type** : CommonOrDedicatedTFS

**Derivation Path Encoding Variation:** 

Comments : transport format set for FACH (PS) used for SS configuration

## **Constraint Value**

```
tti tti10 :{ {
  tb_Size 360,
  numberOfTbSizeList { zero : NULL, one : NULL},
  logicalChannelList allSizes: NULL
semistaticTF_Information {
 channelCodingType turbo: NULL,
 rateMatchingAttribute 130,
 crc_Size crc16
```

**Detailed Comments**: TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 360 bits; TansportBlock = 0, Size = 360.

Constraint Name : c\_FACH\_TFS\_PS\_UE

Group :

**ASN1 Type** : CommonTransChTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for FACH (PS)

### **Constraint Value**

```
{
  tti tti10 :{ {
    rlc_Size fdd : {octetModeRLC_SizeInfoType2 sizeType2: 3},
    numberOfTbSizeList { zero : NULL, one : NULL},
    logicalChannelList allSizes : NULL
  }},
  semistaticTF_Information {
    channelCodingType turbo : NULL,
    rateMatchingAttribute 130,
    crc_Size crc16
  }
}
```

**Detailed Comments**: TTI = 10 ms;

two transport formats:

TransportBlocks = 1, TB size = 360 bits; TansportBlock = 0, Size = 360.

rlc\_Size = TB\_Size ( FACH)

Constraint Name : c\_FACH\_TFS\_UE

Group :

**ASN1 Type** : CommonTransChTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for FACH

```
Constraint Value
```

```
{
  tti tti10 :{ {
    rlc_Size fdd : {octetModeRLC_SizeInfoType2 sizeType1: 15},
    numberOfTbSizeList { zero : NULL, one : NULL, small : 2},
    logicalChannelList allSizes : NULL
}},
  semistaticTF_Information {
    channelCodingType convolutional : half,
    rateMatchingAttribute 220,
    crc_Size crc16
}
}
```

**Detailed Comments**: TTI = 10 ms;

three transport formats:

TransportBlocks = 2, TB size = 168 bits; TransportBlocks = 1, TB size = 168 bits; TansportBlock =

0, Size = 168.

rlc\_Size = TB\_Size ( FACH) coding = convolutional;

rate = 1/2; CRCsize = 16; RateMatching = 220

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_FreqInfo ( p\_uarfcnUL , p\_uarfcnDL : UARFCN )

Group

**ASN1 Type** : FrequencyInfo

Derivation Path : Encoding Variation : Comments :

## Constraint Value

```
{
   modeSpecificInfo fdd: {
    uarfcn_UL p_uarfcnUL ,
    uarfcn_DL p_uarfcnDL
  }
```

```
ASN.1 Type Constraint Declaration
```

 $\textbf{Constraint Name} \qquad \textbf{:} \ \ c\_MAC\_PagingCfg(p\_E18: B18; p\_dRX: INTEGER) \\$ 

Group :

**ASN1 Type** : CmacPagingConfigReq

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
{
    pl_BitMapInfo e18: p_E18,
    dRX_CycleLength p_dRX,
    iMSI o_ConvertIMSI(px_IMSI_Def),
    t_pich_T_sccpch FALSE
```

**Constraint Name** : c\_MIB\_Def (p\_CellInfo: CellInfoCfg)

Group

**ASN1 Type** : MasterInformationBlock

**Derivation Path Encoding Variation:** 

Comments : Default setting of MIB. 3GPP TS 34.123-3 clause 8.4.3

### **Constraint Value**

```
mib_ValueTag 1,
plmn_Type gsm_MAP : {
 plmn_Identity {
  mcc o_HexToDigitsMCC ( p_CellInfo.mcc),
  mnc o_HexToDigitsMNC (p_CellInfo.mnc ) }
sibSb_ReferenceList {
  sibSb_Type sysInfoTypeSB1: 1,
  scheduling {scheduling {
    sib_Pos rep16:1
  }}
 },
 {
  sibSb_Type sysInfoType1: 1,
  scheduling {scheduling {
    sib_Pos rep64:11
  }}
  sibSb_Type sysInfoType2: 1,
  scheduling {scheduling {
    sib_Pos rep64:11
  }}
  sibSb_Type sysInfoType3: 1,
  scheduling {scheduling {
    sib_Pos rep64: 10
 },
  sibSb_Type sysInfoType4: 1,
  scheduling {scheduling {
    sib_Pos rep64: 26
  }}
  sibSb_Type sysInfoType5 : 1,
  scheduling {scheduling {
    segCount 4,
    sib_Pos rep64: 19,
    sib_PosOffsetInfo {so4, so2, so2}
  }}
}
```

Detailed Comments: Assum no segmentation for SIB1, SIB2, SIB3, SIB4.

Contains scheduling informations for SIB1, SIB2, SIB3, SIB4, SIB5 and SB1 only, the scheduling

information for other SIBs are in SysInfoTypeSB1.

The value 1 of valueTags is a place holder. actual values of them will be non-zero and assigned dynamically in various SendSystemInformation test Steps.

Constraint Name : c\_PCH\_TFS

Group :

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for PCH

```
Constraint Value
```

```
{
  tti tti10 :{ {
     tb_Size 240,
     numberOfTbSizeList { zero : NULL, one : NULL},
     logicalChannelList allSizes : NULL
}},
semistaticTF_Information {
     channelCodingType convolutional : half,
     rateMatchingAttribute 230,
     crc_Size crc16
}
}
```

**Detailed Comments**: TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 240 bits; TansportBlock = 0, Size = 240.

coding = convolutional;

rate = 1/2; CRCsize = 16; RateMatching = 230

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_PCH\_TFS\_UE

Group :

**ASN1 Type** : CommonTransChTFS

Derivation Path : Encoding Variation :

**Comments**: transport format set for PCH

## **Constraint Value**

```
{
  tti tti10 :{ {
    rlc_Size fdd : {octetModeRLC_SizeInfoType2 sizeType1: 24},
    numberOfTbSizeList { zero : NULL, one : NULL},
    logicalChannelList allSizes : NULL
  }},
  semistaticTF_Information {
    channelCodingType convolutional : half,
    rateMatchingAttribute 230,
    crc_Size crc16
  }
}
```

Detailed Comments: TTI = 10 ms;

two transport formats:

TransportBlocks = 1, TB size = 240 bits; TansportBlock = 0, Size = 240.

rlc\_Size = TB\_Size (PCH) coding = convolutional;

rate = 1/2; CRCsize = 16; RateMatching = 230

```
ASN.1 Type Constraint Declaration
Constraint Name
                 : c_PagingType1_P_TMSI (
                   p_PagCause: PagingCause;
                   p_P_Tmsi : P_TMSI_GSM_MAP;
                   p_Domain: CN_DomainIdentity)
Group
ASN1 Type
                  : PagingType1
Derivation Path
Encoding Variation:
Comments
                                              Constraint Value
 pagingRecordList {
  cn_Identity:{
   pagingCause p_PagCause,
   cn_DomainIdentity p_Domain,
   cn_pagedUE_Identity p_TMSI_GSM_MAP : p_P_Tmsi
 },
 bcch_ModificationInfo OMIT,
 laterNonCriticalExtensions OMIT
Detailed Comments:
```

```
ASN.1 Type Constraint Declaration
                  : c_PagingType1_TMSI ( p_PagCause: PagingCause; p_Tmsi: TMSI_GSM_MAP;
Constraint Name
                      p_Domain : CN_DomainIdentity )
Group
ASN1 Type
                  : PagingType1
Derivation Path
Encoding Variation:
Comments
                                                Constraint Value
 pagingRecordList {
  cn_Identity:{
   pagingCause p_PagCause,
   cn_DomainIdentity p_Domain,
   cn\_pagedUE\_Identity\ tmsi\_GSM\_MAP:\ p\_Tmsi
  }
 bcch_ModificationInfo OMIT,
 laterNonCriticalExtensions OMIT
Detailed Comments:
```

Constraint Name : c\_PichInfo

Group

ASN1 Type : PICH\_Info

Derivation Path : Encoding Variation :

**Comments** : value for pi\_CountPerFrame FFS

## **Constraint Value**

fdd :{
 channelisationCode256 tsc\_PICH1\_ChC,
 pi\_CountPerFrame e18,
 sttd\_Indicator FALSE

```
\begin{tabular}{lll} \textbf{Constraint Name} & : c_RAB\_InfoListRLC ( & p_RAB\_Id: BITSTRING; & p_RLC\_Info: RLC\_Info: p_Domain: CN\_DomainIdentity; & p_RB\_Id: RB\_Identity & ) & \\ \end{tabular}
```

Group :

ASN1 Type : RAB\_InformationSetupList

Derivation Path : Encoding Variation :

Comments : RAB\_InformationSetup for RLC tests on RB10. Reference 3G TS 34.108, clause 6.11.1 to 6.11.4

The corresponding SS entity should be configured as a TM entity, such that the RLC header

information can be specified and / or verified from the TTCN.

### **Constraint Value**

```
{
  rab_Info {
   rab_Identity gsm_MAP_RAB_Identity: p_RAB_Id,
   cn_DomainIdentity p_Domain,
   re_EstablishmentTimer useT314
  rb_InformationSetupList {{
    rb_Identity p_RB_Id,
    pdcp_Info OMIT,
    rlc_InfoChoice rlc_Info :p_RLC_Info,
    rb_MappingInfo {{
       ul_LogicalChannelMappings oneLogicalChannel:{
        ul_TransportChannelType dch: tsc_UL_DCH1,
        logicalChannelIdentity tsc_UL_DTCH1,
        rlc_SizeList configured :NULL,
        mac_LogicalChannelPriority 7
       dl_LogicalChannelMappingList {{
         dl_TransportChannelType dch: tsc_DL_DCH1,
         logicalChannelIdentity tsc_DL_DTCH1
      }}
    }}
  }}
}
```

Constraint Name : c\_RACH\_TFS

Group :

**ASN1 Type** : CommonOrDedicatedTFS

Derivation Path : Encoding Variation :

Comments : transport format set for RACH

### **Constraint Value**

```
{
    tti tti20 :{{
        tb_Size 168,
            numberOfTbSizeList { one : NULL},
            logicalChannelList configured : NULL
},
    {
        tb_Size 360,
            numberOfTbSizeList { one : NULL },
            logicalChannelList configured : NULL
},
        semistaticTF_Information {
        channelCodingType convolutional : half,
        rateMatchingAttribute 150,
        crc_Size crc16
}
}
```

**Detailed Comments**: TTI = 20 ms;

two transport formats: TransportBlocks = 1, TB size = 168 bits and TransportBlocks = 1, TB size =

360 bits;

coding = convolutional;

rate = 1/2; CRCsize = 16

Constraint Name : c\_RACH\_TFS\_UE

Group :

ASN1 Type : CommonTransChTFS

Derivation Path : Encoding Variation :

Comments : transport format set for RACH used in message sent to UE

### **Constraint Value**

```
{
    tti tti20 :{{
        rlc_Size fdd : {octetModeRLC_SizeInfoType2 sizeType1: 15},
        numberOfTbSizeList { one : NULL},
        logicalChannelList configured : NULL
    },
    {
        rlc_Size fdd : { octetModeRLC_SizeInfoType2 sizeType2 : 3},
        numberOfTbSizeList { one : NULL },
        logicalChannelList configured : NULL
    }},
    semistaticTF_Information {
        channelCodingType convolutional : half,
        rateMatchingAttribute 150,
        crc_Size crc16
    }
}
```

**Detailed Comments**: TTI = 20 ms;

two transport formats:

TransportBlocks = 1, TB size = 168 bits and TransportBlocks = 1, TB size = 360 bits;

rlc\_Size = TB\_Size (RACH)
coding = convolutional;

rate = 1/2; CRCsize = 16; RateMatching = 1

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_RB2\_IntegrityProtActivationInfoList(p\_RRCSN : RRC\_MessageSequenceNumber)

Group :

ASN1 Type : IntegrityProtActivationInfoList

Derivation Path : Encoding Variation :

Comments : To Start Integrity on RB2 in UL

### **Constraint Value**

```
{{
    rb_Identity tsc_RB2,
    rrc_MessageSequenceNumber p_RRCSN
}}
```

Constraint Name : c\_RB\_ActTimeInfo(p\_RB\_Id: INTEGER; p\_N: RLC\_SequenceNumber)

Group :

**ASN1 Type** : RB\_ActivationTimeInfo

Derivation Path : Encoding Variation : Comments :

**Constraint Value** 

{ rb

rb\_Identity p\_RB\_Id, rlc\_SequenceNumber p\_N

}

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_RB\_InformationRel10

Group :

ASN1 Type : RB\_InformationReleaseList

Derivation Path : Encoding Variation : Comments :

**Constraint Value** 

{ 10 }

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_RB\_InformationRel20

Group

ASN1 Type : RB\_InformationReleaseList

Derivation Path : Encoding Variation : Comments :

**Constraint Value** 

{ 20 }

**Constraint Name**: c\_RestRB\_IntegrityProtActivationInfoList(p\_SN0, p\_SN1, p\_SN3, p\_SN4:

RRC\_MessageSequenceNumber)

Group

ASN1 Type : IntegrityProtActivationInfoList

Derivation Path : Encoding Variation :

Comments : To Start Integrity on RB2 in UL

# **Constraint Value**

```
{{
    rb_Identity tsc_RB0,
    rrc_MessageSequenceNumber p_SN0
},
    {
    rb_Identity tsc_RB1,
    rrc_MessageSequenceNumber p_SN1
},
    {
    rb_Identity tsc_RB3,
    rrc_MessageSequenceNumber p_SN3
},
    {
    rb_Identity tsc_RB4,
    rrc_MessageSequenceNumber p_SN4
}}
```

Constraint Name : c\_SB1\_Def

Group :

ASN1 Type : SysInfoTypeSB1

Derivation Path : Encoding Variation :

Comments : Default setting of SB1. scheduling is defined in 3GPP TS 34.123–3 clause 8.4.3

### **Constraint Value**

```
sib_ReferenceList {
  sib_Type sysInfoType6: 1,
  scheduling {scheduling {
     segCount 4,
     sib_Pos rep64: 3,
     sib_PosOffsetInfo {so4, so2, so2}
  }}
 },
  sib_Type sysInfoType7: NULL,
  scheduling {scheduling {
     sib_Pos rep16: 2
  }}
  sib_Type sysInfoType11: 1,
  scheduling { scheduling {
     segCount 3,
     sib_Pos rep64: 29,
     sib_PosOffsetInfo {so2, so2}
  }}
 },
  sib_Type sysInfoType12: 1,
  scheduling { scheduling {
     segCount 3,
     sib_Pos rep64: 13,
     sib_PosOffsetInfo {so2, so2}
  }}
 },
  sib_Type sysInfoType18: 1,
  scheduling { scheduling {
     sib_Pos rep64: 18
}},
nonCriticalExtensions OMIT
```

Detailed Comments: Assum no segmentation for SIB7.

Contains scheduling informations for SIB6, SIB7, SIB11, SIB12, SIB18 only, the scheduling

information for other SIBs may be added later.

The value 1 of valueTags is a place holder, actual values of them will be non-zero and assigned

dynamically in various SendSystemInformation test Steps.

# ASN.1 Type Constraint Declaration Constraint Name : c\_SB1\_Schedul1 Group : ASN1 Type : SchedulingInformation Derivation Path : Encoding Variation : Comments : SB1 of one segment Constraint Value { scheduling { sib\_Pos rep16 : 1 }

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB11\_Schedul1

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB11 of one segment, 3GPP TS 34.123–3 clause 8.4.3

### **Constraint Value**

```
{
    scheduling {
        sib_Pos rep64 :29
    }
}
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB11\_Schedul2

Group

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB11 of two segments, 3GPP TS 34.123–3 clause 8.4.3

# **Constraint Value**

```
{
  scheduling {
    segCount 2,
    sib_Pos rep64 :29,
    sib_PosOffsetInfo {so2}
}
```

# ASN.1 Type Constraint Declaration Constraint Name : c\_SIB11\_Schedul3 Group : ASN1 Type : SchedulingInformation Derivation Path : Encoding Variation : Comments : SIB11 of three segments, 3GPP TS 34.123–3 clause 8.4.3 Constraint Value { scheduling { segCount 3, sib\_Pos rep64 :29, sib\_PosOffsetInfo {so2, so2}

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB12\_Schedul1

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB12 of one segment, 3GPP TS 34.123–3 clause 8.4.3

# **Constraint Value**

```
{
    scheduling {
        sib_Pos rep64 :13
    }
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB12\_Schedul2

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB12 of two segments, 3GPP TS 34.123–3 clause 8.4.3

## **Constraint Value**

```
{
  scheduling {
    segCount 2,
    sib_Pos rep64 : 13,
    sib_PosOffsetInfo {so2}
  }
}
```

Constraint Name : c\_SIB12\_Schedul3

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB12 of three segments, 3GPP TS 34.123–3 clause 8.4.3

### **Constraint Value**

```
{
  scheduling {
    segCount 3,
    sib_Pos rep64 :13,
    sib_PosOffsetInfo {so2, so2}
  }
}
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB18\_2PLMN ( p\_InterCellInfo : CellInfoCfg )

Group :

**ASN1 Type** : SysInfoType18

Derivation Path : Encoding Variation :

**Comments**: The Cell Info will be of the cell of other PLMN

# **Constraint Value**

```
{
  idleModePLMNIdentities
  {
    pImnsOfIntraFreqCellsList OMIT,
    pImnsOfInterFreqCellsList
    {{
        pImn_Identity {
            mcc o_HexToDigitsMCC ( p_InterCellInfo.mcc),
            mnc o_HexToDigitsMNC (p_InterCellInfo.mnc )
        }
    }},
    pImnsOfInterRATCellsList OMIT
},
    connectedModePLMNIdentities OMIT,
    nonCriticalExtensions OMIT
```

Constraint Name : c\_SIB18\_3PLMN ( p\_Inter1CellInfo, p\_Inter2CellInfo : CellInfoCfg )

Group :

**ASN1 Type** : SysInfoType18

Derivation Path : Encoding Variation :

Comments : The Cell Info will be of the one cell each of other PLMN's

### **Constraint Value**

```
idleModePLMNIdentities
 plmnsOfIntraFreqCellsList OMIT,
 plmnsOfInterFreqCellsList\\
   plmn_Identity {
    mcc o_HexToDigitsMCC ( p_Inter1CellInfo.mcc),
    mnc o_HexToDigitsMNC (p_Inter1CellInfo.mnc )
   },{
   plmn_Identity {
    mcc o_HexToDigitsMCC ( p_Inter1CellInfo.mcc),
    mnc o_HexToDigitsMNC (p_Inter1CellInfo.mnc )
   plmn_Identity {
    mcc o_HexToDigitsMCC ( p_Inter1CellInfo.mcc),
    mnc o_HexToDigitsMNC (p_Inter1CellInfo.mnc)
   plmn_Identity {
    mcc o_HexToDigitsMCC ( p_Inter2CellInfo.mcc),
    mnc o_HexToDigitsMNC (p_Inter2CellInfo.mnc )
 }},
 plmnsOfInterRATCellsList OMIT
connectedModePLMNIdentities OMIT,
nonCriticalExtensions OMIT
```

# **ASN.1 Type Constraint Declaration Constraint Name** : c\_SIB18\_Def ( p\_CellInfo : CellInfoCfg ) Group **ASN1 Type** : SysInfoType18 **Derivation Path Encoding Variation:** Comments **Constraint Value** idleModePLMNIdentities plmnsOfIntraFreqCellsList OMIT, plmnsOfInterFreqCellsList OMIT, plmnsOfInterRATCellsList OMIT connectedModePLMNIdentities OMIT, nonCriticalExtensions OMIT **Detailed Comments:**

```
ASN.1 Type Constraint Declaration

Constraint Name : c_SIB2_Def ( p_CellInfo : CellInfoCfg )

Group :
ASN1 Type : SysInfoType2

Derivation Path :
Encoding Variation :
Comments : Default system information block type 2

Constraint Value

{
    ura_IdentityList { p_CellInfo.ura_Identity },
    nonCriticalExtensions OMIT
}

Detailed Comments : for cell 1 and cell 2.
```

```
ASN.1 Type Constraint Declaration

Constraint Name : c_SIB5_Schedul1
Group :
ASN1 Type : SchedulingInformation
Derivation Path :
Encoding Variation :
Comments : SIB5 of one segment, 3GPP TS 34.123–3 clause 8.4.3

Constraint Value

{
scheduling {
sib_Pos rep64 :19
}
}
Detailed Comments :
```

Constraint Name : c\_SIB5\_Schedul2

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

Comments : SIB5 of two segments, 3GPP TS 34.123–3 clause 8.4.3

### **Constraint Value**

```
{
    scheduling {
        segCount 2,
        sib_Pos rep64 :19,
        sib_PosOffsetInfo {so4}
    }
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB5\_Schedul3

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

**Comments**: SIB5 of three segments, 3GPP TS 34.123–3 clause 8.4.3

# **Constraint Value**

```
{
    scheduling {
        segCount 3,
        sib_Pos rep64 :19,
        sib_PosOffsetInfo {so4, so2}
    }
```

# ASN.1 Type Constraint Declaration Constraint Name : c\_SIB5\_Schedul4 Group : ASN1 Type : SchedulingInformation Derivation Path : Encoding Variation : Comments : SIB5 of four segments, 3GPP TS 34.123–3 clause 8.4.3 Constraint Value { scheduling { scheduling { segCount 4, sib\_Pos rep64 :19, sib\_PosOffsetInfo {so4, so2, so2} } } }

```
ASN.1 Type Constraint Declaration

Constraint Name : c_SIB6_Schedul1
Group :
ASN1 Type : SchedulingInformation
Derivation Path :
Encoding Variation :
Comments : SIB6 of one segment

Constraint Value

{
    scheduling {
        sib_Pos rep64 : 3
    }
}
Detailed Comments :
```

```
ASN.1 Type Constraint Declaration

Constraint Name : c_SIB6_Schedul2
Group :
ASN1 Type : SchedulingInformation
Derivation Path :
Encoding Variation :
Comments : SIB6 of two segments

Constraint Value

{
    scheduling {
        segCount 2,
        sib_Pos rep64 :3,
        sib_PosOffsetInfo {so4}
    }
}
Detailed Comments :
```

Constraint Name : c\_SIB6\_Schedul3

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

**Comments** : SIB6 of three segments

### **Constraint Value**

```
{
  scheduling {
    segCount 3,
    sib_Pos rep64 :3,
    sib_PosOffsetInfo {so4, so2}
  }
}
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_SIB6\_Schedul4

Group :

**ASN1 Type** : SchedulingInformation

Derivation Path : Encoding Variation :

**Comments** : SIB6 of four segments

# **Constraint Value**

```
{
  scheduling {
    segCount 4,
    sib_Pos rep64 :3,
    sib_PosOffsetInfo {so4, so2, so2}
  }
}
```

Constraint Name : c\_SIB7\_Def

Group :

**ASN1 Type** : SysInfoType7

Derivation Path : Encoding Variation :

Comments : Default system information block type 7

# **Constraint Value**

```
{
    modeSpecificInfo fdd : {
        ul_Interference -100
    },
    prach_Information_SIB5_List { 2 },
    prach_Information_SIB6_List { 2 },
    nonCriticalExtensions OMIT
}
```

```
ASN.1 Type Constraint Declaration
Constraint Name
                  : c_SRB_InfoSetupAM_DCH (
                     p_UI_lgchId: LogicalChannelIdentity;
                    p_MAC_lgch_prtDCH , p_MAC_lgch_prtRACH : MAC_LogicalChannelPriority ;
                    p_DI_lgchId: LogicalChannelIdentity
Group
ASN1 Type
                   : SRB_InformationSetup
Derivation Path
Encoding Variation:
Comments
                                                  Constraint Value
 rb_Identity OMIT,
 rlc_InfoChoice rlc_Info:
  ul_RLC_Mode ul_AM_RLC_Mode: cd_UL_AM_RLC_SRB,
  dl_RLC_Mode dl_AM_RLC_Mode : cd_DL_AM_RLC_SRB
 rb_MappingInfo
 {
   ul_LogicalChannelMappings oneLogicalChannel: {
    ul_TransportChannelType dch: tsc_UL_DCH5,
    logicalChannelIdentity p_UI_lgchId,
    rlc_SizeList configured :NULL,
    mac_LogicalChannelPriority p_MAC_lgch_prtDCH
   dl_LogicalChannelMappingList{{
     dl_TransportChannelType dch: tsc_DL_DCH5,
     logicalChannelIdentity p_DI_lgchld
   }}
  },
   ul_LogicalChannelMappings oneLogicalChannel: {
    ul_TransportChannelType rach:NULL,
    logicalChannelIdentity p_UI_lgchId,
    rlc\_SizeList\ explicitList\ :\ \{\ rlc\_SizeIndex\ 1\}\ \},
    mac_LogicalChannelPriority p_MAC_lgch_prtRACH
   dl_LogicalChannelMappingList{{
     dl_TransportChannelType fach: NULL,
     logicalChannelIdentity p_DI_lgchld
}
Detailed Comments:
```

**Constraint Name**: c\_SRB\_InfoSetupAM\_FACH ( p\_RB\_Id: RB\_Identity; p\_UI\_IgchId:

LogicalChannelIdentity;p\_MAC\_lgch\_prtDCH, p\_MAC\_lgch\_prt: MAC\_LogicalChannelPriority;

p\_DI\_lgchld: LogicalChannelIdentity)

Group :

**ASN1 Type** : SRB\_InformationSetup

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
rb_Identity p_RB_Id,
rlc_InfoChoice rlc_Info:
 ul_RLC_Mode ul_AM_RLC_Mode: cd_UL_AM_RLC_SRB,
 dl_RLC_Mode dl_AM_RLC_Mode: cd_DL_AM_RLC_SRB
rb_MappingInfo
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType rach: NULL,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList explicitList : { { rlc_SizeIndex 1} },
   mac_LogicalChannelPriority p_MAC_lgch_prt
  dl_LogicalChannelMappingList{{
    dl_TransportChannelType fach: NULL,
    logicalChannelIdentity p_DI_lgchld
  }}
 },
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType dch: tsc_UL_DCH5,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList configured :NULL,
   mac_LogicalChannelPriority p_MAC_lgch_prtDCH
  dl_LogicalChannelMappingList{{
    dl_TransportChannelType dch: tsc_DL_DCH5,
    logicalChannelIdentity p_DI_lgchld
  }}
 }
```

Constraint Name : c\_SRB\_InfoSetupUM\_DCH ( p\_UI\_lgchId : LogicalChannelIdentity ; p\_MAC\_lgch\_prtDCH, p\_MAC\_lgch\_prtRACH : MAC\_LogicalChannelPriority ; p\_DI\_lgchId : LogicalChannelIdentity )

Group :

ASN1 Type : SRB\_InformationSetup

Derivation Path : Encoding Variation : Comments :

# **Constraint Value**

```
rb_Identity OMIT,
rlc_InfoChoice rlc_Info:
 ul_RLC_Mode ul_UM_RLC_Mode:
  transmissionRLC_Discard OMIT
 dl_RLC_Mode dl_UM_RLC_Mode: NULL
rb_MappingInfo
{
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType dch: tsc_UL_DCH5,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList configured :NULL,
   mac_LogicalChannelPriority p_MAC_lgch_prtDCH
  dl_LogicalChannelMappingList{{
     dl_TransportChannelType dch: tsc_DL_DCH5,
     logicalChannelIdentity p_DI_lgchld
  }}
 },
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType rach:NULL,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList explicitList : { { rlc_SizeIndex 1} },
mac_LogicalChannelPriority p_MAC_lgch_prtRACH
  dl_LogicalChannelMappingList{{
     dl_TransportChannelType fach: NULL,
     logicalChannelIdentity p_DI_lgchld
```

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.3cm} c\_SRB\_InfoSetupUM\_FACH \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} p\_UI\_IgchId: \hspace{0.1cm} LogicalChannelIdentity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Identity; \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} RB\_Id: \hspace{0.1cm} (\hspace{0.1cm} p\_R$ 

p\_MAC\_lgch\_prtDCH , p\_MAC\_lgch\_prt: MAC\_LogicalChannelPriority; p\_DI\_lgchld:

LogicalChannelIdentity)

Group :

**ASN1 Type** : SRB\_InformationSetup

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
rb_Identity p_RB_Id,
rlc_InfoChoice rlc_Info:
 ul_RLC_Mode ul_UM_RLC_Mode:
  transmissionRLC_Discard timerBasedNoExplicit: dt50
 dl_RLC_Mode dl_UM_RLC_Mode: NULL
},
rb_MappingInfo
{
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType rach:NULL,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList explicitList : { { rlc_SizeIndex 1} },
   mac_LogicalChannelPriority p_MAC_lgch_prt
  dl_LogicalChannelMappingList{{
    dl_TransportChannelType fach: NULL,
    logicalChannelIdentity p_DI_lgchld
  }}
 },
  ul_LogicalChannelMappings oneLogicalChannel: {
   ul_TransportChannelType dch: tsc_UL_DCH5,
   logicalChannelIdentity p_UI_lgchId,
   rlc_SizeList configured :NULL,
   mac_LogicalChannelPriority p_MAC_lgch_prtDCH
  dl_LogicalChannelMappingList{{
    dl_TransportChannelType dch: tsc_DL_DCH5,
    logicalChannelIdentity p_DI_lgchld
```

```
ASN.1 Type Constraint Declaration

Constraint Name : c_TFCS_Cmpl0 ( p_PowerOffsetInformation : PowerOffsetInformation )

Group :

ASN1 Type : TFCS

Derivation Path :

Encoding Variation :

Comments :

Constraint Value

normalTFCI_Signalling: complete: {
    ctfcSize ctfc2Bit:{
    {
        ctfc2 0, powerOffsetInformation p_PowerOffsetInformation }
    }
    }
}

Detailed Comments :
```

Constraint Name : c\_TFCS\_Cmpl0\_1\_2\_3\_Rx

Group : TFCS
ASN1 Type : TFCS
Derivation Path : Encoding Variation :

Comments : TFCS information without power offset information – for receiver

### **Constraint Value**

Constraint Name : c\_TFCS\_Cmpl0\_1\_2\_3\_Tx ( p\_PowerOffsetInformation : PowerOffsetInformation )

Group : TFCS
ASN1 Type : TFCS
Derivation Path : Encoding Variation :

**Comments** : TFCS information with power offset information – for transmitter

### **Constraint Value**

```
normalTFCI_Signalling: complete: {
    ctfcSize ctfc4Bit:{
        ctfc4 0,
            powerOffsetInformation c_PowerOffsetInfoComputed
        },
        {
            ctfc4 1,
            powerOffsetInformation c_PowerOffsetInfoComputed
        },
        {
            ctfc4 2,
            powerOffsetInformation c_PowerOffsetInfoComputed
        },
        {
            ctfc4 3,
            powerOffsetInformation p_PowerOffsetInformation
        }
    }
}
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TFCS\_Cmpl0\_1\_Rx

Group :
ASN1 Type : TFCS
Derivation Path :
Encoding Variation :

**Comments**: TFCS information without power offset information – for receiver

# Constraint Value

 $\textbf{Constraint Name} \quad : c\_TFCS\_Cmpl0\_1\_Tx \ ( \ p\_PowerOffsetInformation \ : PowerOffsetInformation \ )$ 

Group : TFCS
ASN1 Type : TFCS
Derivation Path : Encoding Variation :

**Comments**: TFCS information with power offset information – for transmitter

### **Constraint Value**

```
normalTFCI_Signalling: complete: {
    ctfcSize ctfc2Bit:{
        ctfc2 0,
        powerOffsetInformation c_PowerOffsetInfoComputed
        },
        {
        ctfc2 1,
        powerOffsetInformation p_PowerOffsetInformation
        }
    }
}
```

Constraint Name : c\_TFCS\_CmplFACH\_Tx ( p\_PowerOffsetInformation : PowerOffsetInformation )

Group : TFCS
ASN1 Type : TFCS
Derivation Path : Encoding Variation :

**Comments** : TFCS information with power offset information – for transmitter

### **Constraint Value**

```
normalTFCI_Signalling: complete: {
    ctfcSize ctfc4Bit:{
        ctfc4 0,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 1,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 2,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 3,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 4,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 5,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        {
            ctfc4 6,
            powerOffsetInformation c_PowerOffsetInfoComputed },
        },
        {
            ctfc4 8,
            powerOffsetInformation p_PowerOffsetInfoComputed },
        }
    }
```

# **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

**Constraint Name** : c\_TrChConfigTypeDCH\_NoSHO

Group

**ASN1 Type** : TrChConfigType

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

dch : normal

Constraint Name : c\_TrChInfoBCH1

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrChInfoDL\_1344\_148\_RLC

Group

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: DL Transport channel configuration information for RLC tests using 1344 bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.2 and 6.11.4.

### **Constraint Value**

```
{
    dlconnectedTrCHList {
        {
             trchid tsc_DL_DCH1,
             transportChannelInfo c_DCH_1344_TFS_RLC
        },
        {
             trchid tsc_DL_DCH5,
             transportChannelInfo c_DCH_148_TFS_DL
        }
        },
        dlTFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k) --- sent to SS
    }
```

Constraint Name : c\_TrChInfoDL\_13\_6\_StandAlone

Group

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
{
    dlconnectedTrCHList {
        { trchid tsc_DL_DCH5,
            transportChannelInfo c_DCH_148_TTI_10_TFS
        }},
    dlTFCS c_TFCS_Cmpl0_1_Tx ( c_PowerOffsetInfoBelow64k )
}
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrChInfoDL\_144\_148\_RLC\_AM

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: DL Transport channel configuration information for RLC tests using 144 bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.3.

# **Constraint Value**

```
{
    dlconnectedTrCHList {
      {
            trchid tsc_DL_DCH1,
            transportChannelInfo c_DCH_144_TFS_RLC_AM
       },
      {
            trchid tsc_DL_DCH5,
            transportChannelInfo c_DCH_148_TFS_DL
      }
      dITFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k ) --- sent to SS
}
```

Constraint Name : c\_TrChInfoDL\_336\_148\_RLC\_UM

Group

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: DL Transport channel configuration information for RLC tests using 336 bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.1 and 6.11.3.

### **Constraint Value**

```
{
    dlconnectedTrCHList {
        {
             trchid tsc_DL_DCH1,
            transportChannelInfo c_DCH_336_TFS_RLC_UM
        },
        {
             trchid tsc_DL_DCH5,
            transportChannelInfo c_DCH_148_TFS_DL
        },
        dlTFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k ) --- sent to SS
}
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrChInfoPCH\_FACH

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments** : For FDD mode only

### **Constraint Value**

```
{
    dlconnectedTrCHList {
        { trchid tsc_PCH1,
            transportChannelInfo c_PCH_TFS
        },
        { trchid tsc_FACH1,
            transportChannelInfo c_FACH_TFS
        },
        { trchid tsc_FACH2,
            transportChannelInfo c_FACH_TFS_PS
        },
        dlTFCS c_TFCS_CmplFACH_Tx ( c_PowerOffsetInfoBelow64k ) --- sent to SS
    }
```

Constraint Name : c\_TrChInfoPCH\_FACH\_PS

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

Comments : For FDD mode only (PS)

### **Constraint Value**

```
{
    dlconnectedTrCHList {
        { trchid tsc_PCH1,
            transportChannelInfo c_PCH_TFS
        },
        { trchid tsc_FACH1,
            transportChannelInfo c_FACH_TFS
        },
        { trchid tsc_FACH2,
            transportChannelInfo c_FACH_TFS_PS
        },
        { trchid tsc_FACH2,
            transportChannelInfo c_FACH_TFS_PS
        }},
        dlTFCS c_TFCS_CmplFACH_Tx ( c_PowerOffsetInfoBelow64k ) --- sent to SS
}
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrChInfoUL\_1344\_148\_RLC

Group :

**ASN1 Type**: TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: UL Transport channel configuration information for RLC tests using 1344 bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.2 and 6.11.4.

### **Constraint Value**

Constraint Name : c\_TrChInfoUL\_13\_6\_StandAlone

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
{
    ulconnectedTrCHList {
        { trchid tsc_UL_DCH5,
            transportChannelInfo c_DCH_148_TTI_10_TFS
        }},
    ulTFCS c_TFCS_Cmpl0_1_Rx -- sent to SS
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrChInfoUL\_144\_148\_RLC\_AM

Group :

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: UL Transport channel configuration information for RLC tests using 144bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.3

# Constraint Value

```
{
    ulconnectedTrCHList {
      {
            trchid tsc_UL_DCH1,
            transportChannelInfo c_DCH_144_TFS_RLC_AM
       },
      {
            trchid tsc_UL_DCH5,
            transportChannelInfo c_DCH_148_TFS_UL
      }
      },
      ulTFCS c_TFCS_Cmpl0_1_2_3_Rx -- sent to SS
```

Constraint Name : c\_TrChInfoUL\_336\_148\_RLC\_UM

Group

ASN1 Type : TrCHInfo

Derivation Path : Encoding Variation :

**Comments**: UL Transport channel configuration information for RLC tests using 336 bit transport blocks.

This information is used within the CMAC\_Config\_REQ for DCH1 and DCH5

Reference 3G TS 34.108 clause 6.11.1

### **Constraint Value**

```
{
    ulconnectedTrCHList {
        {
             trchid tsc_UL_DCH1,
            transportChannelInfo c_DCH_336_TFS_RLC_UM
        },
        {
             trchid tsc_UL_DCH5,
            transportChannelInfo c_DCH_148_TFS_UL
        }
        },
        ulTFCS c_TFCS_Cmpl0_1_2_3_Rx --- sent to SS
}
```

### **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_TrLogMappingBCH1

Group :

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

Constraint Name : c\_TrLogMappingDL\_4DCCH

Group :

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation : Comments :

**Detailed Comments:** 

### **Constraint Value**

```
ulconnectedTrCHList OMIT,
dlconnectedTrCHList {
  trchid tsc_DL_DCH5,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DCCH1,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB1
    logicalChannel_Mapping dl_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc DL DCCH2,
     logicalChannelType dCCH,
     rlc_SizeList configured : NULL,
     mac_LogicalChannelPriority 2
    rB_Identity tsc_RB2
   },
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DCCH3,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 3
    rB_Identity tsc_RB3
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DCCH4,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 4
    rB_Identity tsc_RB4
```

Constraint Name : c\_TrLogMappingDL\_4DCCH\_1DTCH\_RLC( p\_RB\_Identity: SS\_RB\_Identity )

Group

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation :

Comments : DL Logical channel mapping list for RLC tests. The DTCH RAB for RLC testing is mapped to

DCH1. The SRBs are mapped to DCH5.

Parameters p\_RB\_Identity:

The RB Id to be used within the SS. This value can be used by the SS decoder to determine which

RLC mode is being simulated.

Expected values: -10 => UM7 -11 => UM15 -12 => AM7 -13 => AM15

### **Constraint Value**

```
ulconnectedTrCHList OMIT,
dlconnectedTrCHList {
  trchid tsc_DL_DCH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DTCH1,
     logicalChannelType dTCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 7
    rB_Identity p_RB_Identity
  trchid tsc_DL_DCH5,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DCCH1,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB1
   },
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType dch,
     logicalChannelIdentity tsc_DL_DCCH2,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 2
```

Continued on next page

### **Constraint Value**

```
rB_Identity tsc_RB2
logicalChannel_Mapping dl_LogicalChannelMapping : {
macHeaderManipulation normalMacHeader,
dl_TransportChannelType dch, logicalChannelIdentity tsc_DL_DCCH3,
logicalChannelType dCCH,
rlc_SizeList configured : NULL,
mac_LogicalChannelPriority 3
rB_Identity tsc_RB3
logicalChannel_Mapping dl_LogicalChannelMapping : {
macHeaderManipulation normalMacHeader,
dl_TransportChannelType dch,
logicalChannelIdentity tsc_DL_DCCH4,
logicalChannelType dCCH,
rlc_SizeList configured: NULL,
mac_LogicalChannelPriority 4
rB_Identity tsc_RB4
```

Constraint Name : c\_TrLogMappingPCH\_FACH\_CellDCH

Group

ASN1 Type : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation :

**Detailed Comments:** 

Comments : For FDD mode only. map PCCH to PCH and CCCH and BCCH(for BCCH\_FACH)

To be used for the Cell DCH configuration

### **Constraint Value**

```
ulconnectedTrCHList OMIT,
dlconnectedTrCHList {
  trchid tsc_PCH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType pch,
     logicalChannelIdentity tsc_PCCH1,
     logicalChannelType pCCH,
     rlc_SizeList configured : NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB_PCCH
  trchid tsc FACH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType fach,
     logicalChannelIdentity tsc_DL_CCCH5,
     logicalChannelType cCCH,
     rlc_SizeList configured : NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB0
```

Constraint Name : c\_TrLogMappingPCH\_FACH\_PS

Group :

ASN1 Type : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation :

Comments: For FDD mode only (PS). map PCCH to PCH and DCCH1, DCCH2, DCCH3, DCCH4, CCCH,

BCCH(for BCCH\_FACH) to FACH2, and DTCH to FACH1

### **Constraint Value**

```
ulconnectedTrCHList OMIT,
dlconnectedTrCHList {
  trchid tsc_PCH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType pch,
     logicalChannelIdentity tsc_PCCH1,
     logicalChannelType pCCH,
     rlc_SizeList configured : NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB_PCCH
  trchid tsc_FACH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping dl_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType fach,
     logicalChannelIdentity tsc_BCCH6,
     logicalChannelType bCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 6
    rB_Identity tsc_RB_BCCH_FACH
   },
    logicalChannel_Mapping dl_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType fach,
     logicalChannelIdentity tsc_DL_CCCH5,
     logicalChannelType cCCH,
     rlc_SizeList configured : NULL,
     mac_LogicalChannelPriority 1
    rB_Identity tsc_RB0
    logicalChannel_Mapping dl_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     dl_TransportChannelType fach,
     logicalChannelIdentity tsc_DL_DCCH1,
     logicalChannelType dCCH,
     rlc_SizeList configured: NULL,
     mac_LogicalChannelPriority 1
```

Continued on next page

### **Constraint Value**

```
rB_Identity tsc_RB1
  logicalChannel_Mapping dl_LogicalChannelMapping: {
   macHeaderManipulation normalMacHeader,
   dl_TransportChannelType fach,
   logicalChannelIdentity tsc_DL_DCCH2,
   logicalChannelType dCCH,
   rlc_SizeList configured : NULL,
   mac_LogicalChannelPriority 2
  rB_Identity tsc_RB2
  logicalChannel_Mapping dl_LogicalChannelMapping : {
   macHeaderManipulation normalMacHeader,
   dl_TransportChannelType fach,
   logicalChannelIdentity tsc_DL_DCCH3,
   logicalChannelType dCCH,
   rlc_SizeList configured : NULL,
   mac_LogicalChannelPriority 3
  rB_Identity tsc_RB3
  logicalChannel_Mapping dl_LogicalChannelMapping : {
   macHeaderManipulation normalMacHeader,
   dl_TransportChannelType fach,
   logicalChannelIdentity tsc_DL_DCCH4,
   logicalChannelType dCCH,
   rlc_SizeList configured : NULL,
   mac_LogicalChannelPriority 4
  rB_Identity tsc_RB4
},{
trchid tsc_FACH2,
trCH_LogCHMappingList {
  logicalChannel_Mapping dl_LogicalChannelMapping: {
   macHeaderManipulation normalMacHeader,
   dl_TransportChannelType fach,
   logicalChannelIdentity tsc_DL_DTCH1,
   logicalChannelType dTCH,
   rlc_SizeList configured : NULL,
   mac_LogicalChannelPriority 8
  rB_Identity tsc_RB20
```

Constraint Name : c\_TrLogMappingRACH\_DTCH

Group :

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
ulconnectedTrCHList {
  trchid tsc_RACH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul TransportChannelType rach,
     logicalChannelIdentity tsc_UL_CCCH5,
     logicalChannelType cCCH
    rB_Identity tsc_RB0
   },
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType rach,
     logicalChannelIdentity tsc_UL_DCCH1,
     logicalChannelType dCCH
    rB_Identity tsc_RB1
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType rach,
     logicalChannelIdentity tsc_UL_DCCH2,
     logicalChannelType dCCH
    rB_Identity tsc_RB2
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType rach,
     logicalChannelIdentity tsc_UL_DCCH3,
     logicalChannelType dCCH
    rB_Identity tsc_RB3
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType rach,
     logicalChannelIdentity tsc_UL_DCCH4,
     logicalChannelType dCCH
    rB_Identity tsc_RB4
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType rach,
     logicalChannelIdentity tsc_UL_DTCH1,
```

Continued on next page

```
ASN.1 Type Constraint Declaration

Constraint Value

logicalChannelType dTCH
},
rB_Identity tsc_RB20
}
}
dlconnectedTrCHList OMIT
}
Detailed Comments:
```

Constraint Name : c\_TrLogMappingUL\_4DCCH

Group :

ASN1 Type : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
ulconnectedTrCHList {
  trchid tsc_UL_DCH5,
  trCH_LogCHMappingList {
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH1,
     logicalChannelType dCCH
    rB_Identity tsc_RB1
   },
    logical Channel\_Mapping\ ul\_Logical Channel Mapping\ :\ \{
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH2,
     logicalChannelType dCCH
    rB_Identity tsc_RB2
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH3,
     logicalChannelType dCCH
    rB_Identity tsc_RB3
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH4,
     logicalChannelType dCCH
    rB_Identity tsc_RB4
},
dlconnectedTrCHList OMIT
```

Constraint Name : c\_TrLogMappingUL\_4DCCH\_1DTCH\_RLC( p\_RB\_Identity: SS\_RB\_Identity )

Group

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation :

Comments : UL Logical channel mapping list for RLC tests. The DTCH RAB for RLC testing is mapped to

DCH1. The SRBs are mapped to DCH5.

Parameters p\_RB\_Identity:

The RB Id to be used within the SS. This value can be used by the SS decoder to determine which

RLC mode is being simulated.

Expected values: -10 => UM7 -11 => UM15 -12 => AM7 -13 => AM15

## **Constraint Value**

```
ulconnectedTrCHList {
  trchid tsc_UL_DCH1,
  trCH_LogCHMappingList {
    logicalChannel_Mapping ul_LogicalChannelMapping: {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc UL DTCH1,
     logicalChannelType dTCH
    rB_Identity p_RB_Identity
 },
  trchid tsc_UL_DCH5,
  trCH_LogCHMappingList {
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH1,
     logicalChannelType dCCH
    rB_Identity tsc_RB1
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH2,
     logicalChannelType dCCH
    rB_Identity tsc_RB2
    logicalChannel_Mapping ul_LogicalChannelMapping : {
     macHeaderManipulation normalMacHeader,
     ul_TransportChannelType dch,
     logicalChannelIdentity tsc_UL_DCCH3,
     logicalChannelType dCCH
```

```
ASN.1 Type Constraint Declaration

Constraint Value

}, rB_|dentity tsc_RB3
}, {
logicalChannel_Mapping ul_LogicalChannelMapping : {
    macHeaderManipulation normalMacHeader,
    ul_TransportChannelType dch,
    logicalChannelIdentity tsc_UL_DCCH4,
    logicalChannelType dCCH
    }, rB_|dentity tsc_RB4
},
}
Betailed Comments :
```

```
ASN.1 Type Constraint Declaration

Constraint Name : c_UE_IdDefIMSI
Group :
ASN1 Type : InitialUE_Identity
Derivation Path :
Encoding Variation :
Comments :

Constraint Value

imsi : o_ConvertIMSI(px_IMSI_Def)

Detailed Comments :
```

Constraint Name : c\_UL\_AddReconfTransChInfoList15\_RLC

Group

**ASN1 Type** : UL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation :

Comments : Transport channel information for DCH1 and DCH5 for AM and UM RLC tests using 15 bit length

indicators.

Reference 3G TS 34.108, clause 6.11.2 and 6.11.4.

## **Constraint Value**

```
{{
    ul_TransportChannelType dch,
    transportChannelIdentity tsc_UL_DCH1,
    transportFormatSet dedicatedTransChTFS: c_DCH_1344_TFS_RLC_UE
},
    {
    ul_TransportChannelType dch,
    transportChannelIdentity tsc_UL_DCH5,
    transportFormatSet dedicatedTransChTFS: c_DCH_148_TFS_UE_UL
}}
```

## **Detailed Comments:**

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_UL\_AddReconfTransChInfoList7\_RLC\_AM

Group :

ASN1 Type : UL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation :

Comments : Transport channel information for DCH1 and DCH5 for aM RLC tests using 7 bit length

indicators.

Reference 3G TS 34.108, clause 6.11.3

## **Constraint Value**

```
{{
    ul_TransportChannelType dch,
    transportChannelIdentity tsc_UL_DCH1,
    transportFormatSet dedicatedTransChTFS: c_DCH_144_TFS_RLC_UE_AM
    },
    {
     ul_TransportChannelType dch,
     transportChannelIdentity tsc_UL_DCH5,
     transportFormatSet dedicatedTransChTFS: c_DCH_148_TFS_UE_UL
}}
```

Constraint Name : c\_UL\_AddReconfTransChInfoList7\_RLC\_UM

Group

**ASN1 Type** : UL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation :

Comments : Transport channel information for DCH1 and DCH5 for UM RLC tests using 7 bit length

indicators.

Reference 3G TS 34.108, clause 6.11.1

## **Constraint Value**

```
{{
    ul_TransportChannelType dch,
    transportChannelIdentity tsc_UL_DCH1,
    transportFormatSet dedicatedTransChTFS: c_DCH_336_TFS_RLC_UE_UM
    },
    {
     ul_TransportChannelType dch,
     transportChannelIdentity tsc_UL_DCH5,
     transportFormatSet dedicatedTransChTFS: c_DCH_148_TFS_UE_UL
    }}
```

## **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_UL\_AddReconfTransChInfoListDCCH\_13\_6k

Group :

ASN1 Type : UL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation : Comments :

# **Constraint Value**

```
{{
    ul_TransportChannelType dch,
    transportChannelIdentity tsc_UL_DCH5,
    transportFormatSet dedicatedTransChTFS: c_DCH_148_TTI_10_TFS_UE
}}
```

Constraint Name : c\_UL\_AddReconfTransChInfoListDCCH\_3\_4k

Group

**ASN1 Type** : UL\_AddReconfTransChInfoList

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
{{
   ul_TransportChannelType dch,
   transportChannelIdentity tsc_UL_DCH5,
   transportFormatSet dedicatedTransChTFS: c_DCH_148_TFS_UE_UL
}}
```

**Detailed Comments:** 

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_UL\_CommTrChInfoDCCH\_13\_6k

Group :

**ASN1 Type** : UL\_CommonTransChInfo

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
{
    tfc_Subset OMIT,
    prach_TFCS OMIT,
    modeSpecificInfo fdd:{
        ul_TFCS c_TFCS_Cmpl0_1_Tx ( c_PowerOffsetInfoBelow64k )
    }
}
```

Constraint Name : c\_UL\_CommTrChInfoRLC

Group :

ASN1 Type : UL\_CommonTransChInfo

Derivation Path : Encoding Variation :

Comments : UL\_CommonTransChInfo for AM and UM RLC tests using 7 and 15 bit length indicators.

Reference 3G TS 34.108, clause 6.11.1 - 6.11.4.

Note that the TFS for DCH1 is limited to 0x336, and 1x366 for RLC testing with 7 bit length

indicators.

## **Constraint Value**

```
{
    tfc_Subset OMIT,
    prach_TFCS OMIT,
    modeSpecificInfo fdd:{
        ul_TFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoHigher64k )
    }
```

## **Detailed Comments:**

# **ASN.1 Type Constraint Declaration**

Constraint Name : c\_UL\_CommTrChInfoRLC\_8K

Group :

ASN1 Type : UL\_CommonTransChInfo

Derivation Path : Encoding Variation :

Comments : UL\_CommonTransChInfo for AM and UM RLC tests using 7 and 15 bit length indicators.

Reference 3G TS 34.108, clause 6.11.1 - 6.11.4.

Note that the TFS for DCH1 is limited to 0x336, and 1x366 for RLC testing with 7 bit length

indicators.

## **Constraint Value**

```
{
    tfc_Subset OMIT,
    prach_TFCS OMIT,
    modeSpecificInfo fdd:{
        ul_TFCS c_TFCS_Cmpl0_1_2_3_Tx ( c_PowerOffsetInfoBelow64k )
    }
}
```

 $\textbf{Constraint Name} \qquad : \ c\_UL\_DPCH\_13\_6\_StandAlone \ ( \ p\_UL\_ScramblingCode \ : \ UL\_ScramblingCode \ )$ 

Group :

ASN1 Type : UL\_DPCH\_Info

Derivation Path : Encoding Variation :

Comments : this DPCH is the same as stand-alone UL:13.6 bps SRBs for DCCH. Used for RLC AM

and UM mode testing.

## **Constraint Value**

```
{
    ul_DPCH_PowerControlInfo fdd:{
        dpcch_PowerOffset tsc_DPCCH_PowerOffset,
        pc_Preamble 1,
        sRB_delay 7,
        powerControlAlgorithm algorithm1: tsc_TpcStepSize
    },
    modeSpecificInfo fdd :{
        scramblingCodeType longSC,
        scramblingCode p_UL_ScramblingCode,
        numberOfDPDCH OMIT,
        spreadingFactor tsc_UL_DPDCH_SF_SRB,
        tfci_Existence TRUE,
        numberOfFBI_Bits OMIT,
        puncturingLimit pl1
    }
}
```

## **Detailed Comments:**

## **ASN.1 Type Constraint Declaration**

Constraint Name : c\_UL\_DeletedTransChInfo (

p\_TransportChannelldentity: TransportChannelldentity

)

Group :

ASN1 Type : UL\_DeletedTransChInfoList

Derivation Path : Encoding Variation : Comments :

## Constraint Value

```
{
    {
        ul_TransportChannelType dch,
        ul_TransportChannelIdentity p_TransportChannelIdentity
    }
}
```

# 

```
ASN.1 Type Constraint Declaration

Constraint Name : c_U_RNTI_Def
Group :
ASN1 Type : U_RNTI
Derivation Path :
Encoding Variation :
Comments : Default U_RNTI identity

Constraint Value

{
    srnc_Identity px_SRNC_Id,
    s_RNTI px_SRNTI
}
Detailed Comments :
```

```
ASN.1 Type Constraint Declaration
Constraint Name : cb_DL_AM_RLC
Group
ASN1 Type
                 : DL_AM_RLC_Mode
Derivation Path
Encoding Variation:
Comments
                                              Constraint Value
 inSequenceDelivery TRUE,
 receivingWindowSize rw128,
 dl RLC StatusInfo {
  timerStatusProhibit tsp200,
  --timerEPC OMIT
  missingPDU_Indicator TRUE,
  timerStatusPeriodic OMIT
Detailed Comments:
```

**Constraint Name**: cb\_DL\_DPCH\_64K\_CS (p\_DL\_CommonInformation: DL\_CommonInformation;

p\_SecondaryScramblingCode : SecondaryScramblingCode )

Group

ASN1 Type : DL\_DPCHInfo

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
dl_CommonInformation p_DL_CommonInformation,
dl_DPCH_InfoPerRL fdd: {
 pCPICH_UsageForChannelEst mayBeUsed,
 dpch_FrameOffset (( (tsc_DefaultDPCH_OffsetValue*512 ) MOD 38400) / 256 ),
 -- DPCH-FrameOffset = DefaultDPCH-OffsetValueFDD MOD 38400
 -- Actual value DPCH-FrameOffset = IE value * 256
 -- Actual value DefaultDPCH-OffsetValueFDD = IE value * 512,
 dl_ChannelisationCodeList { {secondaryScramblingCode p_SecondaryScramblingCode ,
   sf_AndCodeNumber tsc_DL_DPCH1_ChC_64k_CS
 }},
 tpc_CombinationIndex 0
powerOffsetOfTFCI_PO1 tsc_DPCH_PowerOffsetTFCI,
powerOffsetOfTPC_PO2 tsc_DPCH_PowerOffsetTPC,
powerOffsetOfPILOT_PO3 tsc_DPCH_PowerOffsetPILOT,
dl_TxPower tsc_DL_TxPower_DPCH,
dl_TxPowerMax 15,
dl_TxPowerMin -35
```

Constraint Name : cb\_DL\_DPCH\_64K\_PS ( p\_DL\_CommonInformation : DL\_CommonInformation ;

p\_SecondaryScramblingCode : SecondaryScramblingCode )

Group

ASN1 Type : DL\_DPCHInfo

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
dl\_CommonInformation\ p\_DL\_CommonInformation,
dl_DPCH_InfoPerRL fdd: {
   pCPICH_UsageForChannelEst mayBeUsed,
   dpch_FrameOffset (( (tsc_DefaultDPCH_OffsetValue*512 ) MOD 38400) / 256 ),
     -- DPCH-FrameOffset = DefaultDPCH-OffsetValueFDD MOD 38400
     -- Actual value DPCH-FrameOffset = IE value * 256

    Actual value DefaultDPCH-OffsetValueFDD = IE value * 512 ,

    dl\_ChannelisationCodeList \ \{ secondaryScramblingCode \ p\_SecondaryScramblingCode \ , \ and \ before \ condaryScramblingCode \ , \ before \ condaryScrambling
            sf_AndCodeNumber tsc_DL_DPCH1_ChC_64k_PS
   }},
    tpc_CombinationIndex 0
powerOffsetOfTFCI_PO1 tsc_DPCH_PowerOffsetTFCI,
powerOffsetOfTPC_PO2 tsc_DPCH_PowerOffsetTPC,
powerOffsetOfPILOT_PO3 tsc_DPCH_PowerOffsetPILOT,
 dl_TxPower tsc_DL_TxPower_DPCH_64k,
dl_TxPowerMax 15.
 dl_TxPowerMin -35
```

# **ASN.1 Type Constraint Declaration**

 $\textbf{Constraint Name} \hspace{0.3cm} : \hspace{0.1cm} cb\_DL\_DPCH\_8K\_RLC\_7BitLI \hspace{0.1cm} (\hspace{0.1cm} p\_DL\_CommonInformation : DL\_CommonInformation; \\$ 

p\_SecondaryScramblingCode : SecondaryScramblingCode )

Group :

**Detailed Comments:** 

ASN1 Type : DL\_DPCHInfo

**Derivation Path**: cb\_DL\_DPCH\_64K\_CS.

Encoding Variation:
Comments:

## **Constraint Value**

REPLACE dl\_DPCH\_InfoPerRL.fdd.dl\_ChannelisationCodeList.[0].sf\_AndCodeNumber BY tsc\_DL\_DPCH1\_ChC\_RLC\_7\_BitLl

Constraint Name : cb\_DL\_DPCH\_SRB\_StandAloneDPCH\_Offset ( p\_SecondaryScramblingCode :

SecondaryScramblingCode )

Group

ASN1 Type : DL\_DPCHInfo

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
dl_CommonInformation cd_DL_CommonInformationDCH_DPCH_Offset ( tsc_DL_DPCH1_SFP_SRB),
dl_DPCH_InfoPerRL fdd: {
 pCPICH_UsageForChannelEst mayBeUsed,
 dpch_FrameOffset (( (tsc_DefaultDPCH_OffsetValue*512 ) MOD 38400) / 256 ),
 -- DPCH-FrameOffset = DefaultDPCH-OffsetValueFDD MOD 38400
 -- Actual value DPCH-FrameOffset = IE value * 256
 -- Actual value DefaultDPCH-OffsetValueFDD = IE value * 512,
 dl_ChannelisationCodeList { { secondaryScramblingCode p_SecondaryScramblingCode ,
   sf_AndCodeNumber tsc_DL_DPCH1_ChC_SRB
 }},
 tpc_CombinationIndex 0
powerOffsetOfTFCI_PO1 tsc_DPCH_PowerOffsetTFCI,
powerOffsetOfTPC_PO2 tsc_DPCH_PowerOffsetTPC,
powerOffsetOfPILOT_PO3 tsc_DPCH_PowerOffsetPILOT,
dl_TxPower tsc_DL_TxPower_DPCH,
dl_TxPowerMax 15,
dl_TxPowerMin -35
```

Constraint Name : cb\_SIB11\_Def ( p\_ActiveCellInfo, p\_IntraCellInfo2, p\_IntraCellInfo3, p\_IntraCellInfo4, p\_IntraCellInfo5, p\_InterCellInfo6, p\_InterCellInfo7, p\_InterCellInfo8 : CellInfoCfg )

Group

ASN1 Type : SysInfoType11

Derivation Path : Encoding Variation :

Comments : Default system information block type 11. To be used by cell A,B,C,G and H:

5 intra cells frequency of the same frequency3 inter cell frequency of the same frequency.

#### **Constraint Value**

```
sib12indicator TRUE,
measurementControlSysInfo {
 use_of_HCS hcs_not_used : {
  cellSelectQualityMeasure cpich_RSCP: {
   intraFreqMeasurementSysInfo {
     intraFreqMeasurementID OMIT, -- default value
     intraFreqCellInfoSI_List {
      removedIntraFreqCellList OMIT, -- removedIntraFreqCellList in SIB11 is not used and ignored by the UE
      newIntraFreqCellList {{
        intraFreqCellID p_ActiveCellInfo.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primary CPICH\_Info \ \{\ primary Scrambling Code \ p\_Active CellInfo.pri Scrm Code \ \},
           readSFN_Indicator FALSE
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT
        }
        intraFreqCellID p_IntraCellInfo2.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo2.priScrmCode },
           readSFN_Indicator TRUE,
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
        intraFreqCellID p_IntraCellInfo3.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo3.priScrmCode },
           readSFN_Indicator TRUE.
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
        }
        intraFreqCellID p_IntraCellInfo4.cellId,
          cellIndividualOffset OMIT, -- default value
```

### **Constraint Value**

```
referenceTimeDifferenceToCell OMIT,
     modeSpecificInfo fdd: {
     primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo4.priScrmCode },
      readSFN_Indicator TRUE,
     tx_DiversityIndicator FALSE
    cellSelectionReselectionInfo OMIT -- value same as the serving cell
   intraFreqCellID p_IntraCellInfo5.cellId,
   cellInfo {
    cellIndividualOffset OMIT, -- default value
     referenceTimeDifferenceToCell OMIT,
    modeSpecificInfo fdd : {
     primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo5.priScrmCode },
      readSFN_Indicator TRUE,
     tx_DiversityIndicator FALSE
    }.
    cellSelectionReselectionInfo OMIT -- value same as the serving cell
}}
intraFreqMeasQuantity {
filterCoefficient OMIT, -- default value
modeSpecificInfo fdd : {
  intraFreqMeasQuantity_FDD cpich_RSCP
},
reportingInfoForCellDCH {
intraFreqReportingQuantity {
  activeSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator FALSE,
   modeSpecificInfo fdd: {
    cpich_Ec_N0_reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
  monitoredSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator TRUE,
   modeSpecificInfo fdd: {
    cpich_Ec_N0_reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
 measurementReportingMode {
  measurementReportTransferMode acknowledgedModeRLC,
  periodicalOrEventTrigger eventTrigger
 reportCriteria intraFreqReportingCriteria : {
  eventCriteriaList {{
     event e1a: {
     triggeringCondition monitoredSetCellsOnly,
      reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
      reportDeactivationThreshold t2,
      reportingAmount ra4
```

### **Constraint Value**

```
reportingInterval ri4
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
      event e1b: {
       triggeringCondition activeSetCellsOnly,
       reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
       forbiddenAffectCellList OMIT,
       w 1},
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
      event e1c: {
       replacementActivationThreshold t3,
       reportingAmount ra4,
       reportingInterval ri4
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
  }}
}
interFreqMeasurementSysInfo
 interFreqCellInfoSI_List {
  removedInterFreqCellList OMIT, -- removedInterFreqCellList in SIB11 is not used and ignored by the UE
  newInterFreqCellList { {
    interFreqCellID p_InterCellInfo6.cellId,
    frequencyInfo p_InterCellInfo6.frequencyInfo,
    cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo6.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
     },
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
    interFreqCellID p_InterCellInfo7.cellId,
    frequencyInfo OMIT,
    cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo7.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
     },
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
```

frequencyInfo OMIT, cellInfo {

modeSpecificInfo fdd : {

cellSelectionReselectionInfo OMIT -- value same as the serving cell

# **ASN.1 Type Constraint Declaration Constraint Value** $interFreqCellID\ p\_InterCellInfo8.cellId,$ cellIndividualOffset OMIT, -- default value referenceTimeDifferenceToCell OMIT, $primary CPICH\_Info \ \{ \ primary Scrambling Code \ p\_Inter CellInfo 8.pri Scrm Code \ \}, \\ read SFN\_Indicator \ FALSE, \\$ tx\_DiversityIndicator FALSE

## **Detailed Comments:**

nonCriticalExtensions OMIT

} }} }}}

Constraint Name : cb\_SIB11\_Freq2 ( p\_ActiveCellInfo, p\_IntraCellInfo2, p\_IntraCellInfo3, p\_InterCellInfo4, p\_InterCellInfo5, p\_InterCellInfo6, p\_InterCellInfo7, p\_InterCellInfo8 : CellInfoCfg )

Group

ASN1 Type : SysInfoType11

Derivation Path : Encoding Variation :

Comments : Default system information block type 11. To be used by cell D,E,F:

3 intra cells frequency of the same frequency5 inter cell frequency of the same frequency.

#### **Constraint Value**

```
sib12indicator TRUE,
measurementControlSysInfo {
 use_of_HCS hcs_not_used : {
  cellSelectQualityMeasure cpich_RSCP: {
   intraFreqMeasurementSysInfo {
     intraFreqMeasurementID OMIT, -- default value
     intraFreqCellInfoSI_List {
      removedIntraFreqCellList OMIT, -- removeNoIntraFreqCells in SIB11 is not used and ignored by the UE
      newIntraFreqCellList {{
        intraFreqCellID p_ActiveCellInfo.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primary CPICH\_Info \ \{\ primary Scrambling Code \ p\_Active CellInfo.pri Scrm Code \ \},
           readSFN_Indicator FALSE
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT
        }
        intraFreqCellID p_IntraCellInfo2.cellId,
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo2.priScrmCode },
           readSFN_Indicator TRUE,
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
        intraFreqCellID p_IntraCellInfo3.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo3.priScrmCode },
           readSFN_Indicator TRUE.
           tx_DiversityIndicator FALSE
         },
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
        }
     }},
     intraFreqMeasQuantity {
      filterCoefficient OMIT, -- default value
      modeSpecificInfo fdd : {
```

## **Constraint Value**

```
intraFreqMeasQuantity_FDD cpich_RSCP
},
reportingInfoForCellDCH {
intraFreqReportingQuantity {
  activeSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator FALSE,
   modeSpecificInfo fdd: {
    cpich Ec N0 reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
  monitoredSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator TRUE,
   modeSpecificInfo fdd: {
     cpich_Ec_N0_reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
  }
},
 measurementReportingMode {
  measurementReportTransferMode acknowledgedModeRLC,
  periodicalOrEventTrigger eventTrigger
 reportCriteria intraFreqReportingCriteria: {
  eventCriteriaList {{
     event e1a: {
     triggeringCondition monitoredSetCellsOnly,
      reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
      reportDeactivationThreshold t2,
      reportingAmount ra4,
     reportingInterval ri4
    },
    hysteresis 0,
    timeToTrigger ttt640,
    reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
     event e1b: {
     triggeringCondition activeSetCellsOnly,
      reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
     forbiddenAffectCellList OMIT,
     w 1},
     hysteresis 0,
    timeToTrigger ttt640,
     reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
     event e1c: {
     replacementActivationThreshold t3,
      reportingAmount ra4,
     reportingInterval ri4
    hysteresis 0,
    timeToTrigger ttt640,
     reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
```

### **Constraint Value**

```
}}
 }
interFreqMeasurementSysInfo
 interFreqCellInfoSI_List {
  removedInterFreqCellList OMIT,
  newInterFreqCellList {
     interFreqCellID p InterCellInfo4.cellId,
     frequencyInfo p_InterCellInfo4.frequencyInfo,
     cellinfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd : {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo4.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
     interFreqCellID p_InterCellInfo5.cellId,
     frequencyInfo OMIT,
     cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo5.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
      },
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
     interFreqCellID p_InterCellInfo6.cellId,
     frequencyInfo OMIT,
     cellInfo {
      cellIndividualOffset OMIT, -- dafault value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo6.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
     interFreqCellID p_InterCellInfo7.cellId,
     frequencyInfo OMIT,
     cellinfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo7.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
```

## **Constraint Value**

```
cellSelectionReselectionInfo OMIT -- value same as the serving cell
          }
        },
          interFreqCellID p_InterCellInfo8.cellId,
          frequencyInfo OMIT,
          cellinfo {
           cellIndividualOffset OMIT, -- default value referenceTimeDifferenceToCell OMIT,
            modeSpecificInfo fdd : {
             primary CPICH\_Info \ \{ \ primary Scrambling Code \ p\_Inter CellInfo 8.pri Scrm Code \ \}, \\ read SFN\_Indicator \ FALSE, \\
             tx_DiversityIndicator FALSE
           cellSelectionReselectionInfo OMIT -- value same as the serving cell
    } }}
}}}
  -nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB11\_Freq3\_PLMN1Or2 ( p\_ActiveCellInfo, p\_IntraCellInfo2, p\_IntraCellInfo3,

p\_InterCellInfo4, p\_InterCellInfo5, p\_InterCellInfo6, p\_InterCellInfo7, p\_InterCellInfo8:

CellInfoCfg)

Group

ASN1 Type : SysInfoType11

Derivation Path : Encoding Variation :

**Comments**: Default system information block type 11. To be used by cell D,E,F:

3 intra cells frequency of the same frequency5 inter cell frequency of the same frequency.

## **Constraint Value**

```
sib12indicator TRUE.
measurementControlSysInfo {
 use_of_HCS hcs_not_used : {
  cellSelectQualityMeasure cpich RSCP: {
   intraFreqMeasurementSysInfo {
     intraFreqMeasurementID OMIT, -- default value
     intraFreqCellInfoSI_List {
      removedIntraFreqCellList OMIT, -- removeNoIntraFreqCells in SIB11 is not used and ignored by the UE
      newIntraFreqCellList {{
        intraFreqCellID p_ActiveCellInfo.cellId,
        cellInfo {
         cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_ActiveCellInfo.priScrmCode },
           readSFN_Indicator FALSE,
           tx DiversityIndicator FALSE
         },
         cellSelectionReselectionInfo OMIT
        intraFreqCellID p_IntraCellInfo2.cellId,
        cellInfo {
         cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
         modeSpecificInfo fdd : {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo2.priScrmCode },
           readSFN_Indicator TRUE,
           tx_DiversityIndicator FALSE
         cellSelectionReselectionInfo OMIT -- value same as the serving cell
        intraFreqCellID p_IntraCellInfo3.cellId,
        cellInfo {
         cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo3.priScrmCode },
           readSFN_Indicator TRUE,
           tx_DiversityIndicator FALSE
         cellSelectionReselectionInfo OMIT -- value same as the serving cell
     intraFreqMeasQuantity {
      filterCoefficient OMIT, -- default value
```

## **Constraint Value**

```
modeSpecificInfo fdd: {
  intraFreqMeasQuantity_FDD cpich_RSCP
},
reportingInfoForCellDCH {
 intraFreqReportingQuantity {
  activeSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator FALSE,
   modeSpecificInfo fdd: {
    cpich_Ec_N0_reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
  monitoredSetReportingQuantities {
   dummy noReport,
   cellIdentity_reportingIndicator TRUE,
   cellSynchronisationInfoReportingIndicator TRUE,
   modeSpecificInfo fdd: {
    cpich_Ec_N0_reportingIndicator FALSE,
    cpich_RSCP_reportingIndicator TRUE,
    pathloss_reportingIndicator FALSE }
  }
},
 measurementReportingMode {
  measurementReportTransferMode acknowledgedModeRLC,
  periodicalOrEventTrigger eventTrigger
 reportCriteria intraFreqReportingCriteria : {
  eventCriteriaList {{
     event e1a: {
     triggeringCondition monitoredSetCellsOnly,
      reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
     reportDeactivationThreshold t2,
      reportingAmount ra4,
     reportingInterval ri4
    hysteresis 0.
    timeToTrigger ttt640,
     reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
    event e1b: {
     triggeringCondition activeSetCellsOnly,
      reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
     forbiddenAffectCellList OMIT,
      w 1},
    hysteresis 0,
    timeToTrigger ttt640,
     reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
     event e1c: {
     replacementActivationThreshold t3,
      reportingAmount ra4,
     reportingInterval ri4
    },
    hysteresis 0,
    timeToTrigger ttt640,
     reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
```

### **Constraint Value**

```
}
  }}
interFreqMeasurementSysInfo
 interFreqCellInfoSI_List {
  removedInterFreqCellList OMIT,
  newInterFreqCellList {
    interFreqCellID p_InterCellInfo4.cellId,
    frequencyInfo p_InterCellInfo4.frequencyInfo,
    cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd : {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo4.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
     },
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
    interFreqCellID p_InterCellInfo5.cellId,
    frequencyInfo OMIT,
    cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd : {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo5.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
    interFreqCellID p InterCellInfo6.cellId,
    frequencyInfo OMIT,
    cellinfo {
      cellIndividualOffset OMIT, -- dafault value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primaryCPICH_Info { primaryScramblingCode p_InterCellInfo6.priScrmCode },
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
      },
      cellSelectionReselectionInfo OMIT -- value same as the serving cell
    interFreqCellID p_InterCellInfo7.cellId,
    frequencyInfo p_InterCellInfo7.frequencyInfo,
    cellInfo {
      cellIndividualOffset OMIT, -- default value
      referenceTimeDifferenceToCell OMIT,
      modeSpecificInfo fdd: {
       primary CPICH\_Info\ \{\ primary Scrambling Code\ p\_Inter CellInfo 7.pri Scrm Code\ \},
       readSFN_Indicator FALSE,
       tx_DiversityIndicator FALSE
```

## **Constraint Value**

```
\mbox{cellSelectionReselectionInfo OMIT} -- \mbox{value same as the serving cell}
         interFreqCellID p_InterCellInfo8.cellId,
         frequencyInfo OMIT,
         cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd : {
           primary CPICH\_Info\ \{\ primary Scrambling Code\ p\_Inter CellInfo 8.pri Scrm Code\ \},
           readSFN_Indicator FALSE,
           tx_DiversityIndicator FALSE
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
   } }}
}}}
-- nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB11\_Freq3\_PLMN3 ( p\_ActiveCellInfo, p\_IntraCellInfo2, p\_InterCellInfo3, p\_InterCellInfo4,

p\_InterCellInfo5, p\_InterCellInfo6, p\_InterCellInfo7, p\_InterCellInfo8 : CellInfoCfg )

Group

ASN1 Type : SysInfoType11

Derivation Path : Encoding Variation :

Comments : Default system information block type 11. To be used by cell D,E,F:

3 intra cells frequency of the same frequency5 inter cell frequency of the same frequency.

#### **Constraint Value**

```
sib12indicator TRUE,
measurementControlSysInfo {
 use_of_HCS hcs_not_used : {
  cellSelectQualityMeasure cpich_RSCP: {
   intraFreqMeasurementSysInfo {
     intraFreqMeasurementID OMIT, -- default value
     intraFreqCellInfoSI_List {
      removedIntraFreqCellList OMIT, -- removeNoIntraFreqCells in SIB11 is not used and ignored by the UE
      newIntraFreqCellList {{
        intraFreqCellID p_ActiveCellInfo.cellId,
        cellInfo {
          cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
          modeSpecificInfo fdd: {
           primary CPICH\_Info \ \{\ primary Scrambling Code \ p\_Active CellInfo.pri Scrm Code \ \},
           readSFN_Indicator FALSE
           tx_DiversityIndicator FALSE
         },
         cellSelectionReselectionInfo OMIT
        }
        intraFreqCellID p_IntraCellInfo2.cellId,
        cellInfo {
         cellIndividualOffset OMIT, -- default value
         referenceTimeDifferenceToCell OMIT,
         modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_IntraCellInfo2.priScrmCode },
           readSFN_Indicator TRUE,
           tx_DiversityIndicator FALSE
         },
         cellSelectionReselectionInfo OMIT -- value same as the serving cell
     intraFreqMeasQuantity {
      filterCoefficient OMIT, -- default value
      modeSpecificInfo fdd: {
       intraFreqMeasQuantity_FDD cpich_RSCP
     reportingInfoForCellDCH {
      intraFreqReportingQuantity {
       activeSetReportingQuantities {
        dummy noReport,
        cellIdentity_reportingIndicator TRUE,
        cellSynchronisationInfoReportingIndicator FALSE,
        modeSpecificInfo fdd: {
         cpich_Ec_N0_reportingIndicator FALSE,
         cpich_RSCP_reportingIndicator TRUE,
         pathloss_reportingIndicator FALSE }
```

## **Constraint Value**

```
monitoredSetReportingQuantities {
    dummy noReport,
    cellIdentity_reportingIndicator TRUE,
    cellSynchronisationInfoReportingIndicator TRUE,
    modeSpecificInfo fdd: {
      cpich_Ec_N0_reportingIndicator FALSE,
      cpich_RSCP_reportingIndicator TRUE,
      pathloss_reportingIndicator FALSE }
  measurementReportingMode {
   measurementReportTransferMode acknowledgedModeRLC,
   periodicalOrEventTrigger eventTrigger
  reportCriteria intraFreqReportingCriteria : {
   eventCriteriaList {{
      event e1a : {
       triggeringCondition monitoredSetCellsOnly,
       reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
       reportDeactivationThreshold t2,
       reportingAmount ra4,
       reportingInterval ri4
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
      event e1b: {
       triggeringCondition activeSetCellsOnly,
       reportingRange 10, -- Actual value ReportingRange = IE value * 0.5
       forbiddenAffectCellList OMIT,
       w 1},
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
      event e1c: {
       replacementActivationThreshold t3,
       reportingAmount ra4,
       reportingInterval ri4
      hysteresis 0,
      timeToTrigger ttt640,
      reportingCellStatus withinActiveAndOrMonitoredUsedFreq: e3
  }}
interFreqMeasurementSysInfo
 interFreqCellInfoSI List {
  removedInterFreqCellList OMIT,
  newInterFreqCellList {
    interFreqCellID p_InterCellInfo3.cellId,
    frequencyInfo p_InterCellInfo3.frequencyInfo,
    cellInfo {
```

### **Constraint Value**

```
cellIndividualOffset OMIT, -- default value
 referenceTimeDifferenceToCell OMIT,
 modeSpecificInfo fdd: {
  primaryCPICH_Info { primaryScramblingCode p_InterCellInfo3.priScrmCode },
  readSFN_Indicator FALSE.
  tx_DiversityIndicator FALSE
 },
 cellSelectionReselectionInfo OMIT -- value same as the serving cell
interFreqCellID p_InterCellInfo4.cellId,
frequencyInfo OMIT,
cellInfo {
 cellIndividualOffset OMIT, -- default value
 referenceTimeDifferenceToCell OMIT,
 modeSpecificInfo fdd: {
  primaryCPICH_Info { primaryScramblingCode p_InterCellInfo4.priScrmCode },
  readSFN_Indicator FALSE,
  tx_DiversityIndicator FALSE
},
 cellSelectionReselectionInfo OMIT -- value same as the serving cell
interFreqCellID p_InterCellInfo5.cellId,
frequencyInfo OMIT,
cellInfo {
 cellIndividualOffset OMIT, -- default value
 referenceTimeDifferenceToCell OMIT,
 modeSpecificInfo fdd : {
  primaryCPICH_Info { primaryScramblingCode p_InterCellInfo5.priScrmCode },
  readSFN_Indicator FALSE,
  tx_DiversityIndicator FALSE
 cellSelectionReselectionInfo OMIT -- value same as the serving cell
interFreqCellID p InterCellInfo6.cellId,
frequencyInfo p_InterCellInfo6.frequencyInfo,
cellinfo {
 cellIndividualOffset OMIT, -- dafault value
 referenceTimeDifferenceToCell OMIT,
 modeSpecificInfo fdd: {
  primaryCPICH_Info { primaryScramblingCode p_InterCellInfo6.priScrmCode },
  readSFN_Indicator FALSE
  tx_DiversityIndicator FALSE
 },
 cellSelectionReselectionInfo OMIT -- value same as the serving cell
interFreqCellID p_InterCellInfo7.cellId,
frequencyInfo OMIT,
cellInfo {
 cellIndividualOffset OMIT, -- default value
 referenceTimeDifferenceToCell OMIT,
 modeSpecificInfo fdd: {
  primary CPICH\_Info \ \{\ primary Scrambling Code\ p\_Inter CellInfo 7.pri Scrm Code\ \},
  readSFN_Indicator FALSE,
  tx_DiversityIndicator FALSE
```

```
ASN.1 Type Constraint Declaration
                                                    Constraint Value
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
         interFreqCellID p_InterCellInfo8.cellId,
         frequencyInfo OMIT,
         cellinfo {
           cellIndividualOffset OMIT, -- default value
          referenceTimeDifferenceToCell OMIT,
           modeSpecificInfo fdd: {
           primaryCPICH_Info { primaryScramblingCode p_InterCellInfo8.priScrmCode },
           readSFN_Indicator FALSE,
           tx_DiversityIndicator FALSE
          cellSelectionReselectionInfo OMIT -- value same as the serving cell
    } }}
 }}}
 — nonCriticalExtensions OMIT
Detailed Comments:
```

# **ASN.1 Type Constraint Declaration Constraint Name** : cb\_SIB12\_Def Group **ASN1 Type** : SysInfoType12 **Derivation Path Encoding Variation:** Comments : Default system information block type 12, used in connected mode. To be used by cell A,B,C,G and - 5 intra cells frequency of the same frequency - 3 inter cell frequency of the same frequency. **Constraint Value** measurementControlSysInfo { use\_of\_HCS hcs\_not\_used : { cellSelectQualityMeasure cpich\_RSCP: { intraFreqMeasurementSysInfo OMIT, interFreqMeasurementSysInfo OMIT interRATMeasurementSysInfo OMIT nonCriticalExtensions OMIT Detailed Comments: Similar to c\_SIB11\_def except that "detectedSetReportingQuantities" is not present and "timeToTrigger" = 0

Constraint Name : cb\_SIB12\_Freq2

Group :

**ASN1 Type** : SysInfoType12

Derivation Path : Encoding Variation :

Comments : Default system information block type 12, used in connected mode. To be used by cell D,E,F:

- 3 intra cells frequency of the same frequency- 5 inter cell frequency of the same frequency.

## **Constraint Value**

```
{
  measurementControlSysInfo {
    use_of_HCS hcs_not_used : {
    cellSelectQualityMeasure cpich_RSCP : {
        intraFreqMeasurementSysInfo OMIT,
        interFreqMeasurementSysInfo OMIT
    },
    interRATMeasurementSysInfo OMIT
    }
} --nonCriticalExtensions OMIT
}
```

 $\textbf{Detailed Comments} \ : \ Similar \ to \ c\_SIB11\_def \ except \ that \ "detectedSetReportingQuantities" \ is \ not \ present \ and$ 

"timeToTrigger" = 0

Constraint Name : cb\_SIB1\_Def ( p\_CellInfo : CellInfoCfg )

Group :

**ASN1 Type** : SysInfoType1

Derivation Path : Encoding Variation : Comments :

## **Constraint Value**

```
cn_CommonGSM_MAP_NAS_SysInfo p_CellInfo.lac,
cn_DomainSysInfoList {{cn_DomainIdentity ps_domain,
  cn_Type gsm_MAP: o_OctetstringConcat ( p_CellInfo.rac, p_CellInfo.nmo ),
  cn\_DRX\_CycleLengthCoeff\ p\_CellInfo.dRX\_CycleLength.cN\_PS\_DRX\_CycleLength
 {cn_DomainIdentity cs_domain,
  cn_Type gsm_MAP: o_OctetstringConcat ( p_CellInfo.t3212, o_IntToOct ( p_CellInfo.attFlag,1) ),
  cn_DRX_CycleLengthCoeff p_CellInfo.dRX_CycleLength.cN_CS_DRX_CycleLength
},
ue_ConnTimersAndConstants {
t_301 OMIT,
 n_301 OMIT,
 t_302 OMIT,
 n_302 OMIT,
 t_304 OMIT,
 n_304 OMIT,
 t_305 OMIT,
 t_307 OMIT,
 t_308 OMIT,
 t 309 OMIT,
 t_310 OMIT,
 n_310 OMIT,
 t_311 OMIT,
 t_312 OMIT,
 n_312 OMIT,
 t_313 OMIT,
 n_313 OMIT,
 t_314 OMIT,
 t_315 OMIT,
 n_315 OMIT,
 t_316 OMIT,
 t_317 OMIT
ue_IdleTimersAndConstants {
 t_300 ms4000,
 n_300 tsc_N300,
 t_312 10,
 n_312 s1
v3a0NonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB3\_DefUTRAN ( p\_CellInfoCfg : CellInfoCfg )

Group :

**ASN1 Type** : SysInfoType3

Derivation Path : Encoding Variation :

Comments : Default system information block type 3 for UTRAN only

## **Constraint Value**

```
sib4indicator TRUE,
cellIdentity INT_TO_BIT ( p_CellInfoCfg.cellId , 28 ) ,
cellSelectReselectInfo {
 mappingInfo OMIT,
 cellSelectQualityMeasure cpich_RSCP: NULL,
 modeSpecificInfo fdd: {
  s_Intrasearch 8, -- IE value * 2
  s_Intersearch 8, -- IE value * 2
  s_SearchHCS OMIT,
  rat_List OMIT,
  q_QualMin -24,
  q_RxlevMin -40 -- (IE value * 2) + 1
 q_Hyst_I_S 1, -- (IE value*2)
 t_Reselection_S 0,
 hcs_ServingCellInformation OMIT,
 maxAllowedUL_TX_Power 21
cellAccessRestriction {
 cellBarred notBarred: NULL,
 cellReservedForOperatorUse notReserved,
 cellReservationExtension notReserved,
 accessClassBarredList { notBarred,
  notBarred.
  notBarred,
  notBarred.
  notBarred,
  notBarred

    nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB3\_DefUTRAN\_GERAN ( p\_CellInfoCfg : CellInfoCfg )

Group :

**ASN1 Type** : SysInfoType3

Derivation Path : Encoding Variation :

Comments : Default system information block type 3 for UTRAN/GERAN

## **Constraint Value**

```
sib4indicator TRUE,
cellIdentity INT_TO_BIT (p_CellInfoCfg.cellId ,28) ,
cellSelectReselectInfo {
 mappingInfo OMIT,
 cellSelectQualityMeasure cpich_RSCP : NULL,
 modeSpecificInfo fdd: {
  s_Intrasearch 8, -- IE value * 2
  s_Intersearch 8, -- IE value * 2
  s_SearchHCS OMIT,
  rat_List {{
     rat_Identifier gsm,
     s_SearchRAT -16,
     s_HCS_RAT OMIT,
     s_Limit_SearchRAT 0
  q_QualMin -24,
  q_RxlevMin -40 -- (IE value * 2) + 1
 q_Hyst_I_S 1, -- (IE value*2)
 t_Reselection_S 0,
 hcs ServingCellInformation OMIT,
 maxAllowedUL_TX_Power 21
cellAccessRestriction {
 cellBarred notBarred: NULL,
 cellReservedForOperatorUse notReserved,
 cellReservationExtension notReserved,
 accessClassBarredList { notBarred,
  notBarred,
  notBarred,
  notBarred.
  notBarred,
  notBarred,
  notBarred.
  notBarred,
  notBarred.
  notBarred,
  notBarred,
  notBarred,
  notBarred,
  notBarred,
  notBarred,
  notBarred

    nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB4\_DefUTRAN ( p\_CellInfoCfg : CellInfoCfg )

Group :

ASN1 Type : SysInfoType4

Derivation Path : Encoding Variation :

**Comments**: Default system information block type 4 for UTRAN only, used in connected mode.

## **Constraint Value**

```
cellIdentity INT_TO_BIT (p_CellInfoCfg.cellId ,28) ,
cellSelectReselectInfo {
 mappingInfo OMIT,
 cellSelectQualityMeasure cpich_RSCP: NULL,
 modeSpecificInfo fdd : {
  s_Intrasearch 8, -- IE value * 2
  s_Intersearch 8, -- IE value * 2
  s_SearchHCS OMIT,
  rat_List OMIT,
  q_QualMin -24,
  q_RxlevMin -40 -- (IE value * 2) + 1
 q_Hyst_I_S 1, -- (IE value*2)
 t_Reselection_S 0,
 hcs_ServingCellInformation OMIT,
 maxAllowedUL_TX_Power 21
cellAccessRestriction {
 cellBarred notBarred: NULL,
 cellReservedForOperatorUse notReserved,
 cellReservationExtension notReserved,
 accessClassBarredList OMIT

    nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB4\_DefUTRAN\_GERAN ( p\_CellInfoCfg : CellInfoCfg )

Group :

ASN1 Type : SysInfoType4

Derivation Path : Encoding Variation :

Comments : Default system information block type 4 for UTRAN/GERAN, used in connected mode.

## **Constraint Value**

```
cellIdentity INT_TO_BIT (p_CellInfoCfg.cellId ,28) ,
cellSelectReselectInfo {
 mappingInfo OMIT,
 cellSelectQualityMeasure cpich_RSCP: NULL,
 modeSpecificInfo fdd : {
  s_Intrasearch 8, -- IE value * 2
  s_Intersearch 8, -- IE value * 2
  s SearchHCS OMIT,
  rat_List {{
    rat_Identifier gsm,
     s_SearchRAT -16,
    s_HCS_RAT OMIT,
     s_Limit_SearchRAT 0
  }},
  q_QualMin -24,
  q_RxlevMin -40 -- (IE value * 2) + 1
 q_Hyst_I_S 1, -- (IE value*2)
 t_Reselection_S 0,
 hcs_ServingCellInformation OMIT,
 maxAllowedUL_TX_Power 21
cellAccessRestriction {
 cellBarred notBarred: NULL,
 cell Reserved For Operator Use\ not Reserved,
 cellReservationExtension notReserved,
 accessClassBarredList OMIT

    nonCriticalExtensions OMIT
```

Constraint Name : cb\_SIB5\_Def ( p\_CellInfo : CellInfoCfg )

Group :

ASN1 Type : SysInfoType5

Derivation Path : Encoding Variation :

**Comments**: Default system information block type 5

## **Constraint Value**

```
sib6indicator TRUE,
pich_PowerOffset p_CellInfo.powerPICH,
modeSpecificInfo fdd: {
 aich_PowerOffset p_CellInfo.powerAICH
primaryCCPCH_Info OMIT,
prach_SystemInformationList {{
  prach_RACH_Info {
   modeSpecificInfo fdd: {
    availableSignatures tsc_PRACH1_Signatures,
    availableSF tsc_PRACH1_SF,
    preamble Scrambling Code Word Number\ tsc\_PRACH1\_ScrC,
    puncturingLimit pl1,
    availableSubChannelNumbers '11111111111'B
  transportChannelIdentity tsc_RACH1,
  rach_TransportFormatSet commonTransChTFS: c_RACH_TFS_UE,
  rach_TFCS normalTFCI_Signalling : complete : {
   ctfcSize ctfc2Bit : {{
     ctfc2 0,
     powerOffsetInformation { gainFactorInformation computedGainFactors : 0,
       powerOffsetPp_m 0
    { ctfc2 1,
     powerOffsetInformation {
       gainFactorInformation signalledGainFactors : {
        modeSpecificInfo fdd: {
         gainFactorBetaC 11
        gainFactorBetaD 15,
        referenceTFC_ID 0 },
       powerOffsetPp_m 0
  }},
  prach_Partitioning fdd: {{
    accessServiceClass_FDD OMIT
   },
    accessServiceClass_FDD {
     availableSignatureStartIndex 0,
     availableSignatureEndIndex 7,
     assignedSubChannelNumber '1111'B
    accessServiceClass_FDD OMIT
    accessServiceClass_FDD {
     availableSignatureStartIndex 0,
     availableSignatureEndIndex 7
```

### **ASN.1 Type Constraint Declaration**

### **Constraint Value**

```
assignedSubChannelNumber '1111'B
    }
   },
    accessServiceClass_FDD OMIT
    accessServiceClass_FDD {
     availableSignatureStartIndex 0,
     availableSignatureEndIndex 7,
     assignedSubChannelNumber '1111'B
    accessServiceClass_FDD OMIT
    accessServiceClass_FDD {
     availableSignatureStartIndex 0,
     availableSignatureEndIndex 7,
     assignedSubChannelNumber '1111'B
  }},
  persistenceScalingFactorList { psf0_9, psf0_9, psf0_9, psf0_9, psf0_9, psf0_9 },
  ac_To_ASC_MappingTable { 6, 5, 4, 3, 2, 1, 0 },
  modeSpecificInfo fdd: {
   primaryCPICH_TX_Power 31,
   constantValue -10,
   prach_PowerOffset {
    powerRampStep 3, -- db
    preambleRetransMax 4
   rach_TransmissionParameters {
    mmax 2,
    nb01Min 3,
    nb01Max 10
   aich_Info {
    channelisationCode256 tsc_AICH1_ChC,
    sttd Indicator FALSE,
    aich_TransmissionTiming e0
  }
sCCPCH_SystemInformationList {{
  secondaryCCPCH_Info {
   modeSpecificInfo fdd: {
    dummy1 mayBeUsed, -- mandatory ie
    secondaryScramblingCode OMIT,
    sttd_Indicator FALSE,
    sf_AndCodeNumber tsc_S_CCPCH1_ChC,
    pilotSymbolExistence FALSE,
    tfci Existence TRUE,
    positionFixedOrFlexible flexible,
    timingOffset 0
  tfcs normalTFCI_Signalling : complete: {ctfcSize ctfc4Bit : {
    {ctfc4 0 }, {ctfc4 1 }, {ctfc4 2 }, {ctfc4 3 }, {ctfc4 4}, {ctfc4 5 }, {ctfc4 6 }, {ctfc4 8}}},
  fach_PCH_InformationList { {
    transportFormatSet commonTransChTFS: c_PCH_TFS_UE,
    transportChannelIdentity tsc_PCH1, -- PCH
```

Continued on next page

```
ASN.1 Type Constraint Declaration
                                               Constraint Value
    ctch_Indicator FALSE
    transportFormatSet commonTransChTFS: c_FACH_TFS_UE,
    transportChannelIdentity tsc_FACH1, -- FACH
    ctch_Indicator FALSE
    transportFormatSet commonTransChTFS: c_FACH_TFS_PS_UE,
    transportChannelIdentity tsc_FACH2, -- FACH
    ctch Indicator FALSE
  pich_Info fdd :{
   channelisationCode256 tsc_PICH1_ChC,
   pi_CountPerFrame e18,
   sttd_Indicator FALSE
}},
cbs_DRX_Level1Information OMIT
-- nonCriticalExtensions OMIT
```

### **ASN.1 Type Constraint Declaration** : cb\_SIB6\_Def ( p\_CellInfo : CellInfoCfg )

**Constraint Name** 

Group

**Detailed Comments:** 

**ASN1 Type** : SysInfoType6

**Derivation Path Encoding Variation:** 

Comments : Default system information block type 6, used in connected mode.

### **Constraint Value**

```
pich_PowerOffset p_CellInfo.powerPICH,
modeSpecificInfo fdd: {
 aich_PowerOffset p_CellInfo.powerAICH
primaryCCPCH_Info OMIT,
prach_SystemInformationList OMIT,
sCCPCH_SystemInformationList OMIT,
cbs_DRX_Level1Information OMIT
```

Detailed Comments: Similar to cb\_SIB5\_Def, except "AC-to-ASC mapping table" not present

### **ASN.1 Type Constraint Declaration Constraint Name** : cb\_TrChInfoRACH1 Group **ASN1 Type** : TrCHInfo **Derivation Path Encoding Variation:** Comments **Constraint Value** ulconnectedTrCHList { { trchid tsc\_RACH1, transportChannelInfo c\_RACH\_TFS ulTFCS c\_TFCS\_Cmpl0\_1\_Rx, -- sent to SS dlconnectedTrCHList OMIT, dITFCS OMIT

### Detailed Comments:

```
ASN.1 Type Constraint Declaration
```

**Constraint Name**: cb\_TrLogMappingRACH2

Group

**ASN1 Type** : TrCH\_LogCHMappingList1

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

### **ASN.1 Type Constraint Declaration Constraint Name** : cb\_UL\_AM\_RLC Group **ASN1 Type** : UL\_AM\_RLC\_Mode **Derivation Path Encoding Variation:** Comments **Constraint Value** transmissionRLC\_Discard noDiscard: dat15, transmissionWindowSize tw128, timerRST tr500, max\_RST rst4, pollingInfo { timerPollProhibit tpp200, timerPoll tp200, poll\_PDU OMIT, poll\_SDU sdu1, lastTransmissionPDU\_Poll TRUE, lastRetransmissionPDU\_Poll TRUE, pollWindow pw99, timerPollPeriodic OMIT }

```
ASN.1 Type Constraint Declaration
Constraint Name
                 : cb_UL_DPCH_Info (p_SprdFct: SpreadingFactor; p_PuncLimit: PuncturingLimit;
                    p_UL_ScramblingCode : UL_ScramblingCode )
Group
ASN1 Type
                  : UL_DPCH_Info
Derivation Path
Encoding Variation:
Comments
                                                Constraint Value
 ul_DPCH_PowerControlInfo fdd:{
  dpcch_PowerOffset tsc_DPCCH_PowerOffset,
  pc_Preamble 1,
  sRB_delay 7,
  powerControlAlgorithm algorithm1: tsc_TpcStepSize
 modeSpecificInfo fdd :{
  scramblingCodeType longSC,
  scrambling Code \ p\_UL\_Scrambling Code \ ,
  numberOfDPDCH OMIT,
  spreadingFactor p_SprdFct,
  tfci_Existence TRUE,
  numberOfFBI_Bits OMIT,
  puncturingLimit p_PuncLimit
Detailed Comments:
```

**ASN.1 Type Constraint Declaration** 

Constraint Name : cd\_DL\_AM\_RLC\_SRB

Group

ASN1 Type : DL\_AM\_RLC\_Mode

Derivation Path : cb\_DL\_AM\_RLC.

Encoding Variation:
Comments:

**Constraint Value** 

REPLACE receivingWindowSize BY rw32

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cd\_DL\_CommonInformationDCH\_DPCH\_Offset (p\_Sf: SF512\_AndPilot )

Group :

**ASN1 Type** : DL\_CommonInformation

**Derivation Path** : c\_DL\_CommonInformationDCH\_DPCH\_Offset.

Encoding Variation:
Comments:

**Constraint Value** 

 $REPLACE\ dl\_DPCH\_InfoCommon.modeSpecificInfo.fdd.positionFixedOrFlexible\ BY\ fixed,$ 

REPLACE dl\_DPCH\_InfoCommon.modeSpecificInfo.fdd.tfci\_Existence BY FALSE

**Detailed Comments:** 

**ASN.1 Type Constraint Declaration** 

Constraint Name : cd\_UL\_AM\_RLC\_SRB

Group :

ASN1 Type : UL\_AM\_RLC\_Mode

Derivation Path : cb\_UL\_AM\_RLC.

Encoding Variation:
Comments:

**Constraint Value** 

REPLACE transmissionWindowSize BY tw32,

REPLACE max\_RST BY rst1

### **ASN.1 Type Constraint Declaration**

Constraint Name : cs\_CipheringModeCmdOn ( p\_CipheringAlgorithm : CipheringAlgorithm )

Group :

**ASN1 Type** : CipheringModeCommand

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

startRestart : p\_CipheringAlgorithm

**Detailed Comments:** 

### **ASN.1 Type Constraint Declaration**

Constraint Name : cs\_IntegrityCheckInfo0

Group :

**ASN1 Type** : IntegrityCheckInfo

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

{
 messageAuthenticationCode tsc\_MessAuthCode,
 rrc\_MessageSequenceNumber tsc\_MSN
}

**Detailed Comments:** 

### **ASN.1 Type Constraint Declaration**

**Constraint Name** : cs\_IntegrityProtectModify\_P(p1,p2,p3,p4,p5 : RRC\_MessageSequenceNumber)

Group

**ASN1 Type** : IntegrityProtectionModeInfo

Derivation Path : Encoding Variation : Comments :

### **Constraint Value**

```
{
    integrityProtectionModeCommand modify : {
        dl_IntegrityProtActivationInfo {
            rrc_MessageSequenceNumberList {p1,p2,p3,p4,p5 } -- fixed reasonnable value
        }
    },
    integrityProtectionAlgorithm uia1
```

### ASN.1 Type Constraint Declaration Constraint Name : cs\_IntegrityProtectStart ( p\_Integrityprotnumber: BITSTRING ) Group : ASN1 Type : IntegrityProtectionModeInfo Derivation Path : Encoding Variation : Comments : Constraint Value { integrityProtectionModeCommand startIntegrityProtection :{ integrityProtlnitNumber p\_Integrityprotnumber

**Detailed Comments:** 

integrityProtectionAlgorithm uia1

### **ASN.1 Type Constraint Declaration**

Constraint Name : cs\_Null\_CipheringModeCommand

Group :

ASN1 Type : CipheringModeCommand

Derivation Path : Encoding Variation : Comments :

**Constraint Value** 

dummy: NULL

**Detailed Comments:** 

### **ASN.1 Type Constraint Declaration**

Constraint Name : cs\_RB\_ActTimeInfoList20 ( p\_RLC\_SN20 : RLC\_SequenceNumber )

Group

ASN1 Type : RB\_ActivationTimeInfoList

Derivation Path : Encoding Variation : Comments :

**Constraint Value** 

```
ASN.1 Type Constraint Declaration

Constraint Name : cs_RB_ActTimeInfoList20_22( p_RLC_SN20, p_RLC_SN22 : RLC_SequenceNumber )

Group :

ASN1 Type : RB_ActivationTimeInfoList

Derivation Path :

Encoding Variation :

Comments :

Constraint Value

{
    c_RB_ActTimeInfo( tsc_RB20, p_RLC_SN20 ), c_RB_ActTimeInfo( tsc_RB22, p_RLC_SN22 )
}

Detailed Comments :
```

```
ASN.1 Type Constraint Declaration

Constraint Name : cs_RB_ActTimeInfoList20_24( p_RLC_SN20, p_RLC_SN24 : RLC_SequenceNumber )

Group :
ASN1 Type : RB_ActivationTimeInfoList

Derivation Path :
Encoding Variation :
Comments :

Constraint Value

{
    c_RB_ActTimeInfo( tsc_RB20, p_RLC_SN20 ),
    c_RB_ActTimeInfo( tsc_RB24, p_RLC_SN24 )
}

Detailed Comments :
```

```
ASN.1 Type Constraint Declaration
Constraint Name
                  : cs_RB_ActTimeInfoListSRBs ( p_RLC_SN1, p_RLC_SN2, p_RLC_SN3, p_RLC_SN4 :
                    RLC_SequenceNumber)
Group
ASN1 Type
                  : RB_ActivationTimeInfoList
Derivation Path
Encoding Variation:
Comments
                                               Constraint Value
 c_RB_ActTimeInfo (tsc_RB1, p_RLC_SN1),
 c_RB_ActTimeInfo ( tsc_RB2, p_RLC_SN2 ) ,
 c\_RB\_ActTimeInfo\ (\ tsc\_RB3,\ p\_RLC\_SN3\ ),
 c_RB_ActTimeInfo ( tsc_RB4, p_RLC_SN4 ) }
Detailed Comments:
```

```
ASN.1 Type Constraint Declaration
Constraint Name
               : cs_RB_ActTimeInfoListSRBs_20 ( p_RLC_SN1, p_RLC_SN2, p_RLC_SN3, p_RLC_SN4,
                   p_RLC_SN20 : RLC_SequenceNumber)
Group
ASN1 Type
                 : RB_ActivationTimeInfoList
Derivation Path
Encoding Variation:
Comments
                                             Constraint Value
c_RB_ActTimeInfo (tsc_RB1, p_RLC_SN1),
c_RB_ActTimeInfo (tsc_RB2, p_RLC_SN2),
c_RB_ActTimeInfo (tsc_RB3, p_RLC_SN3),
c_RB_ActTimeInfo (tsc_RB4, p_RLC_SN4),
c_RB_ActTimeInfo (tsc_RB20, p_RLC_SN20)
Detailed Comments:
```

```
ASN.1 Type Constraint Declaration
                 : cs_RB_ActTimeInfoListSRBs_20_21 ( p_RLC_SN1, p_RLC_SN2, p_RLC_SN3, p_RLC_SN4,
Constraint Name
                   p_RLC_SN20, p_RLC_SN21 : RLC_SequenceNumber)
Group
ASN1 Type
                  : RB_ActivationTimeInfoList
Derivation Path
Encoding Variation:
Comments
                                              Constraint Value
 c_RB_ActTimeInfo (tsc_RB1, p_RLC_SN1),
 c_RB_ActTimeInfo (tsc_RB2, p_RLC_SN2),
 c\_RB\_ActTimeInfo\ (\ tsc\_RB3,\ p\_RLC\_SN3\ ),
 c_RB_ActTimeInfo ( tsc_RB4, p_RLC_SN4 ),
 c_RB_ActTimeInfo (tsc_RB20, p_RLC_SN20),
 c_RB_ActTimeInfo (tsc_RB21, p_RLC_SN21)
Detailed Comments:
```

```
ASN.1 Type Constraint Declaration
Constraint Name : cs_RB_ActTimeInfoListSRBs_20_22 ( p_RLC_SN1, p_RLC_SN2, p_RLC_SN3, p_RLC_SN4,
                   p_RLC_SN20, p_RLC_SN22 : RLC_SequenceNumber)
Group
ASN1 Type
                 : RB_ActivationTimeInfoList
Derivation Path
Encoding Variation:
Comments
                                             Constraint Value
 c_RB_ActTimeInfo (tsc_RB1, p_RLC_SN1),
 c_RB_ActTimeInfo (tsc_RB2, p_RLC_SN2),
 c_RB_ActTimeInfo (tsc_RB3, p_RLC_SN3),
 c_RB_ActTimeInfo (tsc_RB4, p_RLC_SN4),
 c_RB_ActTimeInfo ( tsc_RB20, p_RLC_SN20 ),
 c_RB_ActTimeInfo ( tsc_RB22, p_RLC_SN22 )
Detailed Comments:
```

```
ASN.1 Type Constraint Declaration
```

 $\begin{array}{ll} \textbf{Constraint Name} & : cs_RB\_ActTimeInfoListSRBs\_21 \ ( \ p\_RLC\_SN1, \ p\_RLC\_SN2, \ p\_RLC\_SN3, \ p\_RLC\_SN4, \\ & p\_RLC\_SN21 : RLC\_SequenceNumber) \end{array}$ 

Group

ASN1 Type : RB\_ActivationTimeInfoList

**Derivation Path Encoding Variation:** Comments

### **Constraint Value**

```
c\_RB\_ActTimeInfo\ (\ tsc\_RB1,\ p\_RLC\_SN1\ )\ ,
 \begin{array}{l} c\_RB\_ActTimeInfo~(~tsc\_RB2,~p\_RLC\_SN2~)~,\\ c\_RB\_ActTimeInfo~(~tsc\_RB3,~p\_RLC\_SN3~), \end{array} 
c\_RB\_ActTimeInfo\ (\ tsc\_RB4,\ p\_RLC\_SN4\ ),
c_RB_ActTimeInfo (tsc_RB21, p_RLC_SN21)
```

### **ASN.1 Type Constraint Declaration Constraint Name** : cs\_RRC\_SecModeCmdCiphInt ( p\_RRC\_Ti : RRC\_TransactionIdentifier; p\_CipheringModeCommand: CipheringModeCommand; p\_RB\_ActivationTimeInfoList: RB\_ActivationTimeInfoList; p\_ActTimeDPCH : INTEGER; p\_cn\_domain : CN\_DomainIdentity; p\_integrityMode : IntegrityProtectionModeInfo; p\_SecurityCapability:BITSTRING; p\_SystemSpecCap: InterRAT\_UE\_SecurityCapList ) Group **ASN1 Type** : SecurityModeCommand **Derivation Path Encoding Variation:** Comments **Constraint Value** r3 securityModeCommand\_r3 rrc\_TransactionIdentifier p\_RRC\_Ti, securityCapability cipheringAlgorithmCap p\_SecurityCapability, integrityProtectionAlgorithmCap tsc\_IntegrProtAlgCap cipheringModeInfo cipheringModeCommand p\_CipheringModeCommand,

### **Detailed Comments:**

activationTimeForDPCH p\_ActTimeDPCH,

 $integrity Protection Mode Info\ p\_integrity Mode,$ 

ue\_SystemSpecificSecurityCap p\_SystemSpecCap

cn\_DomainIdentity p\_cn\_domain,

laterNonCriticalExtensions OMIT

rb\_DL\_CiphActivationTimeInfo p\_RB\_ActivationTimeInfoList

```
ASN.1 Type Constraint Declaration
Constraint Name
                  : cs_RRC_SecModeCmdInt (p_RRC_Ti: RRC_TransactionIdentifier; p_cn_domain:
                    CN_DomainIdentity; p_integrityMode : IntegrityProtectionModeInfo;
                    p_SecurityCapability:BITSTRING;
                    p_SystemSpecCap: InterRAT_UE_SecurityCapList )
Group
ASN1 Type
                   : SecurityModeCommand
Derivation Path
Encoding Variation:
Comments
                                                 Constraint Value
r3
 securityModeCommand_r3
  rrc_TransactionIdentifier p_RRC_Ti,
  securityCapability
   cipheringAlgorithmCap p_SecurityCapability,
   integrityProtectionAlgorithmCap tsc_IntegrProtAlgCap
  cipheringModeInfo OMIT,
  integrityProtectionModeInfo p_integrityMode,
  cn_DomainIdentity p_cn_domain,
  ue_SystemSpecificSecurityCap p_SystemSpecCap
 laterNonCriticalExtensions OMIT
```

```
ASN.1 Type Constraint Declaration

Constraint Name : cs_UE_SysSpecCap( p_SysSpecCap : BITSTRING)

Group :
ASN1 Type : InterRAT_UE_SecurityCapList

Derivation Path :
Encoding Variation :
Comments :

Constraint Value

{ gsm :
    {
        gsmSecurityCapability p_SysSpecCap
}}

Detailed Comments :
```

Constraint Name: cas\_DataReq(p\_RB\_Id: SS\_RB\_Identity; p\_PDU: PDU)

Group :

ASP Type : RLC\_TR\_TestDataReq

Derivation Path :

**Comments**: This constraint is used to send a data PDU using the given RB.

Parameters:

p\_RB\_Id: The identifier for the RB to be used for transmission of data. This is expected to be one of

the following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC

p\_PDU: The RLC data PDU to be transmitted.

| Parameter Name | Parameter Value   | Comments |
|----------------|-------------------|----------|
| cellId         | tsc_CellDedicated |          |
| rB_ld          | p_RB_ld           |          |
| data           | p_PDU             |          |
|                |                   |          |

### **Detailed Comments:**

### **ASP Constraint Declaration**

Constraint Name : cas\_ResetReq( p\_RB\_Id: SS\_RB\_Identity; p\_Reset: RESET\_PDU )

Group :

ASP Type : RLC\_TR\_TestDataReq

Derivation Path :

**Comments**: This constraint is used to send the given RESET PDU using the given RB.

Parameters:

p\_RB\_Id: The identifier for the RB to be used for transmission of data. This is expected to be one of

the following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC

p\_Reset: The RESET PDU to be sent.

| Parameter Name      | Parameter Value   | Comments |
|---------------------|-------------------|----------|
| cellId              | tsc_CellDedicated |          |
| rB_ld               | p_RB_ld           |          |
| data                | p_Reset           |          |
| Poteiled Comments : |                   |          |

Constraint Name: cas\_StatusReq(p\_RB\_Id: SS\_RB\_Identity; p\_SuperFields: SuperFields; p\_NumHalfOctetsPadding:

INTEGER)

Group

ASP Type : RLC\_TR\_TestDataReq

Derivation Path :

Comments : This constraint is used to send a STATUS PDU with the given super fields, and

padding length using the given RB Id.

Parameters:

p\_RB\_Id: The identifier for the RB to be used for transmission of data. This is expected to be one of

the following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC

 $p\_SuperFields$ : The super fields to be included in the STATUS PDU.

p\_NumHalfOctetsPadding: The number of half octets of padding to be added after the STATUS

PDU.

It is the callers responsibility to ensure that the number of octets required to represent p\_SuperFields + p\_NumHalfOctetsPadding is exactly equal to the current RLC PDU size. See cs\_StatusAndPad for

further details on calculation of this parameter.

| Parameter Name     | Parameter Value  | Comments |
|--------------------|--|----------|
| cellid             | tsc_CellDedicated  |          |
| rB_ld              | p_RB_ld  |          |
| data               | cs_StatusAndPad( p_SuperFields, p_NumHalfOctetsPadding ) |          |
| Detailed Comments: |  |          |

### **Detailed Comments:**

### **ASP Constraint Declaration**

Constraint Name: car\_DataInd( p\_RB\_Id: SS\_RB\_Identity; p\_PDU: PDU )

Group

**ASP Type** : RLC\_TR\_TestDataInd

Derivation Path :

**Comments**: This constraint is used to receive a data PDU using the given RB.

Parameters:

p\_RB\_Id: The identifier for the RB to be used for reception of data. This is expected to be one of the

following values, depending on the RLC configuration being tested.

 $tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC$ 

p PDU: The RLC data PDU to be received.

| Parameter Name      | Parameter Value   | Comments |
|---------------------|-------------------|----------|
| cellId              | tsc_CellDedicated |          |
| rB_ld               | p_RB_ld           |          |
| data                | p_PDU             |          |
| Detailed Comments : |                   |          |

Constraint Name: car\_ResetInd( p\_RB\_Id: SS\_RB\_Identity; p\_Reset: RESET\_PDU )

Group :

ASP Type : RLC\_TR\_TestDataInd

Derivation Path :

**Comments**: This constraint is used to receive the given RESET PDU using the given RB.

Any padding octets present are ignored.

Parameters:

p\_RB\_Id: The identifier for the RB to be used for reception of data. This is expected to be one of the

following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC

p\_Reset: The RESET PDU to be received.

| Parameter Name      | Parameter Value   | Comments |
|---------------------|-------------------|----------|
| cellId              | tsc_CellDedicated |          |
| rB_ld               | p_RB_ld           |          |
| data                | p_Reset           |          |
| Detailed Comments : |                   |          |

### **ASP Constraint Declaration**

Constraint Name: ca\_AT\_CmdCnf

Group :

**ASP Type** : AT\_CmdCnf

Derivation Path :

**Comments**: The ASP is used get a positive result only for a requested command to the UT (UT ->LT).

| Parameter Name      | Parameter Value            | Comments                       |
|---------------------|----------------------------|--------------------------------|
| result              | TRUE IF_PRESENT            |                                |
| resultString        | tsc_AT_ResultOK IF_PRESENT |                                |
| sMS_BlockMode       | _                          | Defined for future development |
| Detailed Comments : |                            |                                |

### Detailed Comments .

### **ASP Constraint Declaration**

Constraint Name: ca\_AT\_CmdReq (p\_Cmd: IA5String)

Group :

**ASP Type** : AT\_CmdReq

Derivation Path :

**Comments**: The ASP is used to request a command to the UT (LT ->UT).

| Parameter Name | Parameter Value | Comments                       |
|----------------|-----------------|--------------------------------|
| cmd            | p_Cmd           |                                |
| sMS_BlockMode  | _               | Defined for future development |
|                |                 |                                |

Constraint Name : ca\_DataReq (p\_CellId: INTEGER; p\_Rb: SS\_RB\_Identity; p\_Pdu: PDU)

Group :

ASP Type : RRC\_DataReq

Derivation Path :

Comments : The ASP is used to request the transmission of the NAS PDU message using acknowledged

operation (NAS -> RRC).

| Parameter Name | Parameter Value  | Comments   |
|----------------|------------------|------------|
| cellId         | p_CellId         |            |
| rB_ld          | p_Rb             |            |
| ch             | _                | GERAN only |
| sapld          | _                | GERAN only |
| cN_Domain      | tsc_SS_CS_Domain |            |
| msg            | p_Pdu            |            |
|                |                  |            |

**Detailed Comments:** 

**ASP Constraint Declaration** 

Constraint Name : ca\_MMI\_CmdCnf

Group :

**ASP Type** : MMI\_CmdCnf

Derivation Path :

Comments : The ASP is used get the result of a requested MMI command to the UT (UT ->LT).

| Parameter Name | Parameter Value | Comments |
|----------------|-----------------|----------|
| result         | TRUE            |          |
| resultString   | *               |          |
|                |                 |          |

**Detailed Comments:** 

**ASP Constraint Declaration** 

Constraint Name: ca\_MMI\_CmdReq (p\_Cmd: IA5String)

Group :

**ASP Type** : MMI\_CmdReq

Derivation Path :

**Comments**: The ASP is used to request a MMI command to the UT (LT ->UT).

| Parameter Name | Parameter Value | Comments     |
|----------------|-----------------|--------------|
| cmd            | p_Cmd           | command line |
|                |                 |              |

 $\textbf{Constraint Name} \hspace{0.2cm} \textbf{:} \hspace{0.2cm} ca\_PS\_DataReq \hspace{0.2cm} \textbf{(} \hspace{0.2cm} p\_CellId : INTEGER; p\_Rb : SS\_RB\_Identity ; p\_Pdu : PDU \textbf{)}$ 

Group :

ASP Type : RRC\_DataReq

Derivation Path : Comments :

| Parameter Name | Parameter Value  | Comments   |
|----------------|------------------|------------|
| cellId         | p_CellId         |            |
| rB_ld          | p_Rb             |            |
| ch             | _                | GERAN only |
| sapld          | _                | GERAN only |
| cN_Domain      | tsc_SS_PS_Domain |            |
| msg            | p_Pdu            |            |
|                |                  |            |

**Detailed Comments:** 

### **ASP Constraint Declaration**

 $\textbf{Constraint Name} \hspace{0.2cm} \textbf{:} \hspace{0.2cm} car\_InitDirectTransfer \hspace{0.2cm} (p\_CellId: \hspace{0.2cm} INTEGER; \hspace{0.2cm} p\_Rb: SS\_RB\_Identity; \hspace{0.2cm} p\_Pdu: PDU \hspace{0.2cm})$ 

Group :

ASP Type : RRC\_DataInd

Derivation Path :

**Comments**: The ASP is used to indicate the receipt of the NAS PDU message using acknowledged operation

(NAS <- RRC).

| Parameter Name      | Parameter Value  | Comments   |
|---------------------|------------------|------------|
| cellId              | p_CellId         |            |
| rB_ld               | p_Rb             |            |
| ch                  | _                | GERAN only |
| sapld               | _                | GERAN only |
| cN_Domain           | tsc_SS_CS_Domain |            |
| start               | ?                |            |
| msg                 | p_Pdu            |            |
| Detailed Comments : |                  |            |

Constraint Name: car\_PS\_InitDirectTransfer (p\_CellId: INTEGER; p\_Rb :SS\_RB\_Identity; p\_Pdu : PDU )

Group :

ASP Type : RRC\_DataInd

Derivation Path :

**Comments**: The ASP is used to indicate the receipt of the NAS PDU message using acknowledged operation

(NAS <- RRC).

| Parameter Name | Parameter Value  | Comments   |
|----------------|------------------|------------|
| cellId         | p_CellId         |            |
| rB_ld          | p_Rb             |            |
| ch             | _                | GERAN only |
| sapld          | _                | GERAN only |
| cN_Domain      | tsc_SS_PS_Domain |            |
| start          | ?                |            |
| msg            | p_Pdu            |            |

**Detailed Comments:** 

### **ASP Constraint Declaration**

Constraint Name: car\_PS\_UplinkDirectTransfer (p\_CellId: INTEGER; p\_Rb:SS\_RB\_Identity; p\_Pdu: PDU)

Group :

ASP Type : RRC\_DataInd

Derivation Path :

**Comments**: The ASP is used to indicate the receipt of the NAS PDU message using acknowledged operation

(NAS <- RRC).

| Parameter Name | Parameter Value  | Comments   |
|----------------|------------------|------------|
| cellId         | p_CellId         |            |
| rB_ld          | p_Rb             |            |
| ch             | _                | GERAN only |
| sapld          | _                | GERAN only |
| cN_Domain      | tsc_SS_PS_Domain |            |
| start          | _                |            |
| msg            | p_Pdu            |            |

Constraint Name: car\_StatusInd ( p\_RB\_Id: SS\_RB\_Identity )

Group :

ASP Type : RLC\_TR\_TestDataInd

Derivation Path :

Comments : This constraint is used to receive a STATUS PDU with the given super fields, and using the given RB

ld.

Any padding octets present are ignored.

Parameters:

p\_RB\_ld: The identifier for the RB to be used for reception of data. This is expected to be one of the

following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_UM\_7\_RLC, tsc\_RB\_AM\_15\_RLC, tsc\_RB\_UM\_15\_RLC

p\_SuperFields: The super fields expected to be included in the STATUS PDU.

| Parameter Name      | Parameter Value   | Comments |
|---------------------|-------------------|----------|
| cellid              | tsc_CellDedicated |          |
| rB_ld               | p_RB_ld           |          |
| data                | cr_StatusAny      |          |
| Detailed Comments : |                   |          |

### Detailed Comments:

### **ASP Constraint Declaration**

Constraint Name: car\_UplinkDirectTransfer (p\_CellId: INTEGER; p\_Rb: SS\_RB\_Identity; p\_Pdu: PDU)

Group :

ASP Type : RRC\_DataInd

Derivation Path :

Comments : The ASP is used to indicate the receipt of the NAS PDU message using acknowledged operation

(NAS <- RRC).

| Parameter Name       | Parameter Value  | Comments   |  |
|----------------------|------------------|------------|--|
| cellid               | p_CellId         |            |  |
| rB_ld                | p_Rb             |            |  |
| ch                   | -                | GERAN only |  |
| sapld                | -                | GERAN only |  |
| cN_Domain            | tsc_SS_CS_Domain |            |  |
| start                | _                |            |  |
| msg                  | p_Pdu            |            |  |
| Data it at Community |                  |            |  |

```
ASN.1 ASP Constraint Declaration
Constraint Name : ca_AichInfo(
                    p_CellId: INTEGER;
                   p_PhyChld: INTEGER;
p_AICH_Info: AICH_Info;
                    p_TxPower: AICH_PowerOffset)
Group
ASP Type
                  : CPHY_RL_Setup_REQ
Derivation Path
Comments
                                                    Constraint Value
 cellId p_CellId,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd,
 setupMessage {
  physicalChannelInfo alCHInfo : {
   aichinfo p_AICH_Info,
   dl_TxPower p_TxPower
}
Detailed Comments: The following are fixed in this constraint (34.108):
                      transmission diversity is off,
                      speading factor is set to 256,
                      AICH timing scheme is 0
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_BCH_InfoActNow (p_CellId: INTEGER)
Group
ASP Type
                  : CPHY_TrCH_Config_REQ
Derivation Path
Comments
                 : For FDD mode only
                                                   Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: tsc_P_CCPCH,
 ratType fdd.
 trchConfigType nonDch: NULL,
 configMessage {
  activationTime activateNow: NULL,
  ulconnectedTrCHList OMIT,
  ulTFCS OMIT,
  dlconnectedTrCHList {{
    trchid tsc_BCH1,
    dl_TransportChannelType bch,
    transportChannelInfo {
     tti tti20: {{tb_Size 246,
        numberOfTbSizeList {one : NULL},
        logicalChannelList configured: NULL}},
     semistaticTF_Information {
      channelCodingType convolutional :half,
      rateMatchingAttribute 1,
       crc_Size crc16
    }
  dITFCS c_TFCS_CmpI0 ( c_PowerOffsetInfoBelow64k )
Detailed Comments: For BCH transport channel the following parameters are fixed by core spec.(25.212 and 25.302):
                       TTI = 20 \text{ ms};
                      TransportBlocks = 1;
                      transport block size = 246 bits;
                      coding = convolutional;
                      coding rate = 1/2;
                      CRCsize = 16;
                      RateMatching = 1 (this parameter is not relevant to BCH, value can be any number between 1 to
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_CellCfgCnf(p_CellId : INTEGER)

Group :
ASP Type : CPHY_Cell_Config_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId
}

Detailed Comments :
```

 $\begin{tabular}{ll} \textbf{Constraint Name} &: ca\_CellCfgReq(p\_CellId:INTEGER; p\_Tcell:INTEGER; p\_FreqInfo:FrequencyInfo; p\_PriScmCode:INTEGER; p\_DL\_TxAttenLevel:INTEGER; p\_SfnOffset:INTEGER; p\_totalCellPower:INTEGER; p\_totalCell$ 

CellTxPowerLevel)

Group

: CPHY\_Cell\_Config\_REQ **ASP Type** 

**Derivation Path** Comments

### **Constraint Value**

```
cellid p_Cellid,
tcell p_Tcell,
sfnOffset p_SfnOffset,
frequencyInfo p_FreqInfo,
primaryScramblingCode_SS p_PriScmCode,
cellTxPowerLevel p_totalCellPower,
dLTxAttenuationLevel p_DL_TxAttenLevel
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

Constraint Name: ca\_CMAC\_CfgCnf (p\_CellId: INTEGER; p\_PhyChId: INTEGER)

Group

**ASP Type** : CMAC\_Config\_CNF

**Derivation Path** Comments

### **Constraint Value**

cellid p\_Cellid,

routingInfo physicalChannelIdentity : p\_PhyChId

Constraint Name: ca\_CMAC\_CfgInfo(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_UEInfo: UE\_Info; p\_TrCHInfo: TrCHInfo; p\_TrCH\_LogCHMapping: TrCH\_LogCHMappingList1)

Group

: CMAC\_Config\_REQ **ASP Type** 

**Derivation Path** Comments

### **Constraint Value**

```
cellId p_CellId,
routingInfo physicalChannelIdentity: p_PhyChld,
ratType fdd,
configMessage setup: {
 activationTime activateNow: NULL,
 uE_Info p_UEInfo,
 trCHInfo p_TrCHInfo,
 trCH_LogCHMapping p_TrCH_LogCHMapping
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

**Constraint Name**: ca\_CMAC\_CipherActCnf(p\_CellId: INTEGER; p\_PhyChId: INTEGER)

Group

**ASP Type** : CMAC\_Ciphering\_Activate\_CNF

**Derivation Path** Comments

### **Constraint Value**

cellId p\_CellId, routingInfo physicalChannelIdentity: p\_PhyChld

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_CMAC_DL_CipherActReq (p_CellId: INTEGER; p_PhyChld: INTEGER; p_CipherMode:
                  CipheringModeCommand; p_ActTimeDPCH: INTEGER;p_IncrDcr : Increment_Mode)
Group
ASP Type
                : CMAC_Ciphering_Activate_REQ
Derivation Path
Comments
                                                Constraint Value
 cellId p_CellId,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd,
 cn_DomainIdentity cs_domain, -- the domain is hard coded as no TM RAB in PS domain
 cipheringModeInfo
  ciphering Mode Command \ p\_Cipher Mode,
  activationTimeForDPCH p_ActTimeDPCH,
  rb_DL_CiphActivationTimeInfo OMIT
 incHFN p_IncrDcr
```

## ASN.1 ASP Constraint Declaration Constraint Name : ca\_CMAC\_PagingCfgCnf(p\_CellId: INTEGER; p\_PhysicalChannelIdentity: PhysicalChannelIdentity: Ph

**Detailed Comments:** 

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_CMAC_PagingCfgReq(
                  p_CellId: INTEGER;
                  p_PhysicalChannelIdentity: PhysicalChannelIdentity;
                  p_RatType: RatType;
                  p_Pdu: CmacPagingConfigReq
Group
ASP Type
                 : CMAC_PAGING_Config_REQ
Derivation Path
Comments
                                                Constraint Value
 cellid p_Cellid,
 routing Info\ physical Channell dentity:\ p\_Physical Channell dentity,
 ratType p_RatType,
 configMessage p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_CMAC_ReconfigInfo(p_CellId: INTEGER; p_PhyChId: INTEGER; p_UEInfo: UE_Info;
                  p_TrCHInfo: TrCHInfo; p_TrCH_LogCHMapping: TrCH_LogCHMappingList1; p_ActivationTime:
                  ActivationTime)
Group
ASP Type
                 : CMAC_Config_REQ
Derivation Path
Comments
                                                Constraint Value
 cellId p_CellId,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd,
 configMessage reconfigure: {
  activationTime activationCFN: p_ActivationTime,
  uE_Info p_UEInfo,
  trCHInfo p_TrCHInfo,
  trCH_LogCHMapping p_TrCH_LogCHMapping
Detailed Comments:
```

### **ASN.1 ASP Constraint Declaration** Constraint Name: ca\_CMAC\_ReconfigInfoActNow (p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_UEInfo: UE\_Info; p\_TrCHInfo: TrCHInfo; p\_TrCH\_LogCHMapping: TrCH\_LogCHMappingList1) Group **ASP Type** : CMAC\_Config\_REQ **Derivation Path** Comments **Constraint Value** cellId p\_CellId, routingInfo physicalChannelIdentity: p\_PhyChld, ratType fdd, configMessage reconfigure: { activationTime activateNow: NULL, uE\_Info p\_UEInfo, trCHInfo p\_TrCHInfo,

### **Detailed Comments:**

trCH\_LogCHMapping p\_TrCH\_LogCHMapping

### ASN.1 ASP Constraint Declaration Constraint Name : ca\_CMAC\_SecurityModeCfgCnf (p\_CellId: INTEGER) Group : ASP Type : CMAC\_SecurityMode\_Config\_CNF Derivation Path : Comments : Constraint Value { cellId p\_CellId }

**Constraint Name**: ca\_CMAC\_SecurityModeCfgReq (p\_CellId: INTEGER; p\_Domain : CN\_DomainIdentity; p\_Hfn: HyperFrameNumber; p\_KC: KeyCiphering; p\_IK:IntegrityKey; p\_GSM\_ck : GSM\_CipheringKey )

Group

ASP Type : CMAC\_SecurityMode\_Config\_REQ

Derivation Path : Comments :

### **Constraint Value**

```
{
    cellId p_CellId,
    macCipheringInfo
    {
        cn_DomainIdentity p_Domain,
        startValue p_Hfn,
        cipheringKey p_KC,
        integrityKey p_IK,
        gsmCipheringKey p_GSM_ck
    }
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

 $\textbf{Constraint Name} \hspace{0.1cm} : \hspace{0.1cm} \text{ca\_CMAC\_UL\_CipherActReq (p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_CipherMode: } \\$ 

CipheringModeCommand; p\_ActTimeDPCH: INTEGER;p\_IncrDcr : Increment\_Mode)

Group

**ASP Type** : CMAC\_Ciphering\_Activate\_REQ

Derivation Path : Comments :

### **Constraint Value**

```
{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    ratType fdd,
    cn_DomainIdentity cs_domain, -- domain hard coded as no TM RAB in PS Domain
    cipheringModeInfo
    {
        cipheringModeCommand p_CipherMode,
        activationTimeForDPCH p_ActTimeDPCH,
        rb_DL_CiphActivationTimeInfo OMIT
    },
    incHFN p_IncrDcr
```

Constraint Name: ca\_CPHY\_Cell\_Release\_CNF(

p\_CellId: INTEGER)

Group

ASP Type : CPHY\_Cell\_Release\_CNF

Derivation Path :

Comments : 1. This Primitive with "Soft\_Reset" flag ON gives a common known starting point/state of SS for a

test case. The SS performs the following whenever it receives this primitive with "Soft\_Reset" flag

ON:Releases all configured Channels and cells (if any) irrespective of Cell ID list IE.

2. Releases the associated Memory Buffers (if any).

3. Cancels all active timers (if any) With "Soft Reset" flag OFF:

1. Releases cells listed in IE Cell\_ID\_List and associated configured Channels (if any)

2. Releases the Memory Buffers(if any) associated with Cells listed in IE Cell\_ID\_List

3. Cancels all active timers (if any) associated with Cells listed in IE Cell\_ID\_List.

### **Constraint Value**

```
{
    soft_Reset FALSE,
    cell_ID_List { p_CellId }
}
```

**Detailed Comments:** 

### **ASN.1 ASP Constraint Declaration**

Constraint Name: ca\_CPHY\_Cell\_Release\_REQ(

p\_CellId: INTEGER)

Group :

ASP Type : CPHY\_Cell\_Release\_REQ

Derivation Path :

Comments : 1. This Primitive with "Soft\_Reset" flag ON gives a common known starting point/state of SS for a

 $test\ case.\ The\ SS\ performs\ the\ following\ whenever\ it\ receives\ this\ primitive\ with\ "Soft\_Reset"\ flag$ 

ON:Releases all configured Channels and cells (if any) irrespective of Cell ID list IE.

2. Releases the associated Memory Buffers (if any).

3. Cancels all active timers (if any) With "Soft\_Reset" flag OFF:

1. Releases cells listed in IE Cell\_ID\_List and associated configured Channels (if any)

2. Releases the Memory Buffers(if any) associated with Cells listed in IE Cell\_ID\_List

3. Cancels all active timers (if any) associated with Cells listed in IE Cell\_ID\_List.

### Constraint Value

```
{
    soft_Reset FALSE,
    cell_ID_List { p_CellId }
```

```
ASN.1 ASP Constraint Declaration
Constraint Name : ca_CRLC_CfgCnf(p_CellId: INTEGER; p_RB_Id: INTEGER)
Group
ASP Type
               : CRLC_Config_CNF
Derivation Path :
Comments
                                              Constraint Value
 cellId p_CellId,
routingInfo rB_Identity: p_RB_Id
Detailed Comments:
```

**ASN.1 ASP Constraint Declaration** Constraint Name : ca\_CRLC\_CipherActCnf(p\_CellId: INTEGER ) Group ASP Type : CRLC\_Ciphering\_Activate\_CNF Derivation Path : Comments **Constraint Value** cellid p\_Cellid **Detailed Comments:** 

```
ASN.1 ASP Constraint Declaration
\textbf{Constraint Name} \hspace{0.2cm} \textbf{:} \hspace{0.2cm} \text{ca\_CRLC\_DL\_CipherActReq} (\textbf{p\_CellId: INTEGER; p\_CN\_Domain: CN\_DomainIdentity; p\_RB\_Id: p\_RB
                                                                                              INTEGER; p_CipherMode: CipheringModeCommand; p_N: RLC_SequenceNumber ;p_IncMode :
                                                                                              RLC_IncMode
Group
ASP Type
                                                                                      : CRLC_Ciphering_Activate_REQ
Derivation Path
Comments
                                                                                                                                                                                                                                                      Constraint Value
     cellid p_Cellid,
     ratType fdd,
     cn_DomainIdentity p_CN_Domain,
       ciphActivationInfo cipheringModeInfo:
           ciphering Mode Command \ p\_Cipher Mode,
           activationTimeForDPCH OMIT,
           rb_DL_CiphActivationTimeInfo
                 c_RB_ActTimeInfo(p_RB_Id, p_N)
     incHFN p_IncMode
Detailed Comments:
```

# ASN.1 ASP Constraint Declaration Constraint Name : ca\_CRLC\_DL\_IntegrityActivateReq(p\_CellId: INTEGER; p\_Domain : CN\_DomainIdentity;p\_IntegrityProtectionModeInfo : IntegrityProtectionModeInfo ) Group : ASP Type : CRLC\_Integrity\_Activate\_REQ Derivation Path : Comments : Constraint Value { cellId p\_CellId, cn\_DomainIdentity p\_Domain, integrityActivationInfo integrityProtectionModeInfo : p\_IntegrityProtectionModeInfo } Detailed Comments :

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_CRLC\_IntegrityActivateCnf(p\_CellId: INTEGER)

Group :
ASP Type : CRLC\_Integrity\_Activate\_CNF

Derivation Path :
Comments :

Constraint Value

{
 cellId p\_CellId
}

Detailed Comments :

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_CRLC\_RB\_RelReq ( p\_CellId: INTEGER; p\_RB\_Id: INTEGER )

Group :

ASP Type : CRLC\_Config\_REQ

Derivation Path :

Comments :

Constraint Value

{
 cellId p\_CellId,
 routingInfo rB\_Identity: p\_RB\_Id,
 ratType fdd,
 configMessage release : NULL
}

Detailed Comments :

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_CRLC\_SecurityModeCfgCnf(p\_CellId: INTEGER)

Group :
ASP Type : CRLC\_SecurityMode\_Config\_CNF

Derivation Path :
Comments :

Constraint Value

{
 cellId p\_CellId
}

Detailed Comments :

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_CRLC_SecurityModeCfgReq(p_CellId: INTEGER; p_Domain: CN_DomainIdentity; p_Hfn:
                  HyperFrameNumber; p_KC: KeyCiphering; p_lk: IntegrityKey; p_GSM_ck: GSM_CipheringKey)
Group
                : CRLC_SecurityMode_Config_REQ
ASP Type
Derivation Path
Comments
                                               Constraint Value
 cellId p_CellId,
 rlcSecurityInfo
  cn_DomainIdentity p_Domain,
  startValue p_Hfn,
  cipheringKey p_KC,
  integrityKey p_lk,
  gsmCipheringKey p_GSM_ck
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_CRLC_SetRRC_MSN_CNF (p_CellID :INTEGER ; p_RBID : INTEGER )

Group :

ASP Type : CRLC_SetRRC_MessageSN_CNF

Derivation Path :

Comments :

Constraint Value

{
    cellId p_CellID,
    routingInfo rB_Identity : p_RBID
    }

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_CRLC_UL_CipherActReq ( p_CellId: INTEGER; p_CN_Domain : CN_DomainIdentity; p_RB_ActivationTimeInfoList : RB_ActivationTimeInfoList;p_IncMode : RLC_IncMode )

Group :

ASP Type : CRLC_Ciphering_Activate_REQ

Derivation Path :

Comments :

Constraint Value

{
    cellIld p_CellId, ratType fdd, cn_DomainIdentity p_CN_Domain, ciphActivationInfo rb_UL_CipheringActivationTimeInfo : p_RB_ActivationTimeInfoList, incHFN p_IncMode }
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_CRLC_UL_IntegrityActivateReq ( p_CellId: INTEGER ; p_Domain : CN_DomainIdentity; p_IntegrityProtActivationInfo : IntegrityProtActivationInfoList )

Group :
ASP Type : CRLC_Integrity_Activate_REQ
Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    cn_DomainIdentity p_Domain ,
    integrityActivationInfo ul_IntegProtActivationInfo : p_IntegrityProtActivationInfo
}

Detailed Comments :
```

Constraint Name: ca\_DCH\_148\_TTI\_10\_DL\_Info (p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_ActivationTime:

ActivationTime)

Group :

ASP Type : CPHY\_TrCH\_Config\_REQ

Derivation Path :

Comments: For FDD mode only. The configuration is defined in TS 34.123-1 cl. 6.10.2.4.1.3

### **Constraint Value**

```
{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    ratType fdd,
    trchConfigType c_TrChConfigTypeDCH_NoSHO,
    configMessage {
        activationTime activationCFN : p_ActivationTime,
        dlconnectedTrCHList {{
            trchid tsc_DL_DCH5,
            dl_TransportChannelType dch,
            transportChannelInfo c_DCH_148_TTI_10_TFS
        }},
        dlTFCS c_TFCS_Cmpl0_1_Tx ( c_PowerOffsetInfoBelow64k )
    }
}
```

**Detailed Comments**: For DCH1 transport channel the following parameters are fixed by core spe:

TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU SIZE = 144 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 192

Constraint Name: ca\_DCH\_148\_TTI\_10\_DL\_InfoActNow (p\_CellId: INTEGER; p\_PhyChId: INTEGER)

Group :

**ASP Type** : CPHY\_TrCH\_Config\_REQ

Derivation Path :

Comments : For FDD mode only. The configuration is defined in TS 34.123–1 cl. 6.10.2.4.1.3

### **Constraint Value**

```
{
  cellId p_CellId,
  routingInfo physicalChannelIdentity: p_PhyChId,
  ratType fdd,
  trchConfigType c_TrChConfigTypeDCH_NoSHO,
  configMessage {
   activationTime activateNow : NULL,
   dIconnectedTrCHList {{
     trchid tsc_DL_DCH5,
     dl_TransportChannelType dch,
     transportChannelInfo c_DCH_148_TTI_10_TFS
  }},
  dITFCS c_TFCS_CmpI0_1_Tx ( c_PowerOffsetInfoBelow64k )
  }
}
```

**Detailed Comments**: For DCH1 transport channel the following parameters are fixed by core spec.

TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU SIZE = 144 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 192

Constraint Name: ca\_DCH\_148\_TTI\_10\_UL\_Info (p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_ActivationTime:

ActivationTime)

Group :

ASP Type : CPHY\_TrCH\_Config\_REQ

Derivation Path :

Comments: For FDD mode only. The configuration is defined in TS 34.123-1 cl. 6.10.2.4.1.3

### **Constraint Value**

```
{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    ratType fdd,
    trchConfigType c_TrChConfigTypeDCH_NoSHO,
    configMessage {
        activationTime activationCFN : p_ActivationTime,
        ulconnectedTrCHList {{
            trchid tsc_UL_DCH5,
            ul_TransportChannelType dch,
            transportChannelInfo c_DCH_148_TTI_10_TFS
        }},
        ulTFCS c_TFCS_CmpI0_1_Rx
    }
}
```

**Detailed Comments**: For DCH1 transport channel the following parameters are fixed by core spec.

TTI = 10 ms;

two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.

rlc\_Size = RLC PDU Size = 144 bits.

coding = convolutional; coding rate = 1/3; CRCsize = 16; RateMatching = 192

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_DCH_148_TTI_10_UL_InfoActNow (p_CellId: INTEGER; p_PhyChId: INTEGER)
Group
ASP Type
                 : CPHY_TrCH_Config_REQ
Derivation Path
Comments
                 : For FDD mode only. The configuration is defined in TS 34.123-1 cl. 6.10.2.4.1.3
                                                  Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd.
 trchConfigType c_TrChConfigTypeDCH_NoSHO,
 configMessage {
  activationTime activateNow: NULL,
  ulconnectedTrCHList {{
    trchid tsc_UL_DCH5,
    ul_TransportChannelType dch,
    transportChannelInfo c_DCH_148_TTI_10_TFS
  ulTFCS c_TFCS_Cmpl0_1_Rx
}
Detailed Comments: For DCH1 transport channel the following parameters are fixed by core spec.:
                      TTI = 10 \text{ ms};
                      two transport formats: TransportBlocks = 1, TB size = 148 bits; TansportBlock = 0, Size = 148.
                      rlc_Size = RLC PDU Size = 144 bits.
                      coding = convolutional;
                      coding rate = 1/3;
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_DL_CRLC_SetRRC_MSN_REQ (p_CellID :INTEGER ; p_RBID : INTEGER; p_DL_MSN : RRC_SequenceNumber )

Group : ASP Type : CRLC_SetRRC_MessageSN_REQ

Derivation Path : Comments :

Constraint Value

{
    cellId p_CellID,
    routingInfo rB_Identity : p_RBID,
    count_I_LSB_UL OMIT,
    count_I_LSB_DL p_DL_MSN
}

Detailed Comments :
```

CRCsize = 16; RateMatching = 192

Constraint Name: ca\_DL\_DPCH\_Info(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_DL\_DPCHInfo: DL\_DPCHInfo)

Group :

ASP Type : CPHY\_RL\_Setup\_REQ

Derivation Path :

**Comments**: To setup down link physical channel DPCH.

```
Constraint Value
```

```
{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    ratType fdd,
    setupMessage {
        physicalChannelInfo dPCHInfo : {
            dI_DPCHInfo p_DL_DPCHInfo
        }
    }
}
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

**Constraint Name**: ca\_DL\_DPCH\_ModifyInfo(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_DL\_DPCHInfo:

DL\_DPCHInfo; p\_ActivationTime : ActivationTime)

Group

**ASP Type** : CPHY\_RL\_Modify\_REQ

Derivation Path :

**Comments**: To modify down link physical channel DPCH.

### **Constraint Value**

```
{
  cellId p_CellId,
  routingInfo physicalChannelIdentity: p_PhyChId,
  ratType fdd,
  modifyMessage {
    activationTime activationCFN : p_ActivationTime,
    physicalChannelInfo dPCHInfo : {
     dI_DPCHInfo p_DL_DPCHInfo
  }
}
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_OutOfSyncInd ( p_PhysicalChannelIdentity : PhysicalChannelIdentity )

Group :

ASP Type : CPHY_Out_of_Sync_IND

Derivation Path :

Comments :

Constraint Value

{
    cellId ?,
    routingInfo physicalChannelIdentity: p_PhysicalChannelIdentity
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_pCCPCH_Info(p_CellId: INTEGER; p_TxPower: DL_TxPower)
Group
ASP Type
                : CPHY_RL_Setup_REQ
Derivation Path :
Comments
                : For FDD mode only
                                               Constraint Value
{ cellId p_CellId,
 routingInfo physicalChannelIdentity: tsc_P_CCPCH,
 ratType fdd,
 setupMessage {
  physicalChannelInfo primaryCCPCHInfo : {
   sttd_Indicator FALSE,
   dl_TxPower p_TxPower
 }
Detailed Comments: PhysycalChannelIdentity for p-CCPCH is fixed as tsc_pCCPCH;
```

```
ASN.1 ASP Constraint Declaration
```

Constraint Name: ca\_PCH\_2\_FACH\_InfoActNow(p\_CellId:INTEGER; p\_PhyChId:INTEGER)

Group :

**ASP Type** : CPHY\_TrCH\_Config\_REQ

Derivation Path :

Comments : For FDD mode only (PS)

6.10.2.4.3): TTI = 10 ms;

coding = convolutional; coding rate = 1/2; CRCsize = 16; RateMatching = 210

```
Constraint Value
```

```
cellid p_Cellid,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd,
 trchConfigType nonDch: NULL,
 configMessage {
  activationTime activateNow: NULL,
  ulconnectedTrCHList OMIT,
  ulTFCS OMIT,
  dlconnectedTrCHList {
   { trchid tsc_PCH1,
     dl_TransportChannelType pch,
    transportChannelInfo c_PCH_TFS},
   { trchid tsc_FACH1,
     dl_TransportChannelType fach,
     transportChannelInfo c_FACH_TFS},
   { trchid tsc_FACH2,
     dl_TransportChannelType fach,
    transportChannelInfo c_FACH_TFS_PS} },
  dITFCS c_TFCS_CmpIFACH_Tx ( c_PowerOffsetInfoBelow64k )
Detailed Comments: For PCH transport channel the following parameters are fixed by core spec.(34.108 cl.
                       6.10.2.4.3):
                       TTI = 10 \text{ ms}:
                       two transport formats: TransportBlocks = 0, TB size = 240 bits; and TransportBlocks = 1, TB size =
                       240 bits:
                       coding = convolutional;
                       coding rate = 1/2;
                       CRCsize = 16:
                       RateMatching = 210
                       For FACH1 transport channel the following parameters are fixed by core spec.(34.108 cl.
                       6.10.2.4.3.2):
                       TTI = 10 \text{ ms};
                       two transport formats: TransportBlocks = 0, TB size = 360 bits; TransportBlocks = 1, TB size = 360
                       bits;
                       coding = turbo;
                       CRCsize = 16;
                       RateMatching = 110
```

For FACH2 transport channel the following parameters are fixed by core spec.(34.108 cl.

three transport formats: TransportBlocks = 0, TB size = 168 bits; TransportBlocks = 1, TB size =

168 bits; and TransportBlocks = 2, TB size = 168 bits

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_pCPICH_Info(p_CellId: INTEGER; p_TxPower: DL_TxPower_PCPICH)
Group
ASP Type
                : CPHY_RL_Setup_REQ
Derivation Path :
Comments
                : For FDD mode only
                                               Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: tsc_P_CPICH,
 ratType fdd.
 setupMessage {
  physicalChannelInfo primaryCPICHInfo:{
   dl_TxPower_PCPICH p_TxPower,
   txdiversityIndicator FALSE
}
Detailed Comments: PhysycalChannelIdentity for p-CPICH is fixed as tsc_pCPICH;
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_PHY_RelCnf ( p_CellId : INTEGER; p_PhyChId: INTEGER )

Group :
ASP Type : CPHY_TrCH_Release_CNF

Derivation Path :
Comments : To confirm to release tthe Radio Link

Constraint Value

{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_PHY_RelReqDCH_NoSHO ( p_CellId : INTEGER; p_PhyChId: INTEGER )

Group :

ASP Type : CPHY_TrCH_Release_REQ

Derivation Path :

Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    trchConfigType dch : normal
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_PHY_RelReqNonDch ( p_CellId : INTEGER; p_PhyChId: INTEGER )

Group :
ASP Type : CPHY_TrCH_Release_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChId,
    trchConfigType nonDch: NULL
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_PICH_Info(p_CellId: INTEGER; p_PICH_Info: PICH_Info; p_TxPower:
                  PICH_PowerOffset;p_SCCPCH_Ass: INTEGER)
Group
ASP Type
                 : CPHY_RL_Setup_REQ
Derivation Path
Comments
                 : For FDD mode only
                                                Constraint Value
 cellId p_CellId,
 routingInfo physicalChannelIdentity: tsc_PICH1,
 ratType fdd,
 setupMessage {
  physicalChannelInfo pICHInfo : {
   pichinfo p_PICH_Info,
   dl_TxPower p_TxPower,
   sccpchId_associated p_SCCPCH_Ass
Detailed Comments: Value of PI per frame is fixed to 18 (34.108)
                     Value of sndScramCode can be 2 (34.108)
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_PRACH_Info(
                  p_CellId: INTEGER;
                  p_PhyChld: INTEGER;
                  p_Signatures:AvailableSignatures;
                  p_PreScramCodeWord: PreambleScramblingCodeWordNumber;
                  p_PuncLimit: PuncturingLimit;
                  p_SF_PRACH: SF_PRACH;
                  p_SubChNum: AvailableSubChannelNumbers
Group
ASP Type
                 : CPHY_RL_Setup_REQ
Derivation Path
Comments
                                               Constraint Value
 cellId p_CellId,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd,
 setupMessage {
  physicalChannelInfo pRACHInfo :{
   fdd_tdd fdd : {
    preambleSignature p_Signatures,
    spreadingFactorForDataPart p_SF_PRACH,
    preambleScramblingCode p_PreScramCodeWord,
    puncturingLimit p_PuncLimit,
    accessSlot p_SubChNum
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_pSCH_Info(p_CellId: INTEGER; p_TxPower: DL_TxPower)
Group
ASP Type
                 : CPHY_RL_Setup_REQ
Derivation Path :
Comments
                : For FDD mode only
                                                Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: tsc_P_SCH,
 ratType fdd,
 setupMessage {
  physicalChannelInfo primarySCHInfo: {
   tstdIndicator FALSE,
   dl_TxPower p_TxPower
Detailed Comments: PhysycalChannelIdentity for p–SCH is fixed as tsc_pSCH;
```

Constraint Name: ca\_RB\_AM\_Info\_SRB(p\_CellId: INTEGER; p\_RB\_Id: INTEGER;p\_TimerPollProhbt

:TimerPollProhibit; p\_Timer\_poll: TimerPoll; p\_PollSDU: Poll\_SDU; p\_PollWindw: PollWindow;

p\_LogChMapping : RB\_LogCH\_Mapping; p\_PayLoad : INTEGER)

Group :

**ASP Type** : CRLC\_Config\_REQ

Derivation Path :

Comments : Used to setup AM RLC entity

### **Constraint Value**

```
{
  cellId p_CellId,
  routingInfo rB_Identity: p_RB_Id,
  ratType fdd,
  configMessage setup : {
    sS_rlc_Info { sS_ul_RLC_Mode dl_AM_RLC_Mode :cd_DL_AM_RLC_SRB,
        sS_dl_RLC_Mode {
        dl_PayloadSize p_PayLoad,
        dl_RLCModeInfo ul_AM_RLC_Mode : cd_UL_AM_RLC_SRB
    }
    },
    rB_LogCH_Mapping p_LogChMapping
}
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

Constraint Name: ca\_RB\_BCCH\_Info(p\_CellId: INTEGER; p\_RB\_Id: INTEGER; p\_LogChMapping:

RB\_LogCH\_Mapping)

Group

ASP Type : CRLC\_Config\_REQ

Derivation Path : Comments :

### **Constraint Value**

```
cellId p_CellId,
routingInfo rB_Identity: p_RB_Id,
ratType fdd,
configMessage setup : {
    sS_rlc_Info { sS_dI_RLC_Mode {
        dI_PayloadSize 246,
        dI_RLCModeInfo ul_TM_RLC_Mode :{
        segmentationIndication FALSE
        }
    }
    rB_LogCH_Mapping p_LogChMapping
}
```

**Detailed Comments**: dl\_PayloadSize = TB\_Size

# **ASN.1 ASP Constraint Declaration** Constraint Name: ca\_RB\_PCCH\_Info(p\_CellId: INTEGER; p\_RB\_Id: INTEGER; p\_LogChMapping: RB\_LogCH\_Mapping) Group **ASP Type** : CRLC\_Config\_REQ **Derivation Path** Comments **Constraint Value** cellId p\_CellId, routingInfo rB\_Identity: p\_RB\_Id, ratType fdd, configMessage setup : { sS\_rlc\_Info { sS\_dl\_RLC\_Mode { dl\_PayloadSize 240, dl\_RLCModeInfo ul\_TM\_RLC\_Mode :{ segmentationIndication FALSE } rB\_LogCH\_Mapping p\_LogChMapping

**Detailed Comments**: dl\_PayloadSize = TB\_Sze

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_RB_TM_DL_InfoNoSeg(p_CellId: INTEGER; p_RB_Id: INTEGER; p_PayloadSize: INTEGER;
                  p_LogChMapping : RB_LogCH_Mapping )
Group
ASP Type
                : CRLC_Config_REQ
Derivation Path
Comments
                                               Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB_Id,
 ratType fdd,
 configMessage setup : {
  sS_rlc_Info { sS_dl_RLC_Mode {
    dl_PayloadSize p_PayloadSize,
    dl_RLCModeInfo ul_TM_RLC_Mode :{
     segmentationIndication FALSE
  rB_LogCH_Mapping p_LogChMapping
Detailed Comments:
```

## **ASN.1 ASP Constraint Declaration** Constraint Name: ca\_RB\_TM\_Info(p\_CellId: INTEGER; p\_RB\_Id: INTEGER; p\_PayloadSize: INTEGER; p\_LogChMapping : RB\_LogCH\_Mapping ) Group **ASP Type** : CRLC\_Config\_REQ **Derivation Path** Comments **Constraint Value** cellId p\_CellId, routingInfo rB\_Identity: p\_RB\_Id, ratType fdd, configMessage setup : { sS\_rlc\_Info { sS\_ul\_RLC\_Mode dl\_TM\_RLC\_Mode :{ segmentationIndication FALSE sS\_dl\_RLC\_Mode { $dl\_PayloadSize\ p\_PayloadSize,$ dl\_RLCModeInfo ul\_TM\_RLC\_Mode :{ segmentationIndication FALSE } }}, rB\_LogCH\_Mapping p\_LogChMapping

**Detailed Comments:** 

# **ASN.1 ASP Constraint Declaration** Constraint Name: ca\_RB\_TM\_UL\_Info(p\_CellId: INTEGER; p\_RB\_Id: INTEGER;p\_PayloadSize: INTEGER; p\_LogChMapping : RB\_LogCH\_Mapping) Group **ASP Type** : CRLC\_Config\_REQ **Derivation Path** Comments **Constraint Value** cellId p\_CellId, routingInfo rB\_Identity: p\_RB\_Id, ratType fdd, configMessage setup : { sS\_rlc\_Info { sS\_ul\_RLC\_Mode dI\_TM\_RLC\_Mode :{ segmentationIndication FALSE sS\_dl\_RLC\_Mode { dl\_PayloadSize p\_PayloadSize, dl\_RLCModeInfo ul\_TM\_RLC\_Mode :{ segmentationIndication FALSE rB\_LogCH\_Mapping p\_LogChMapping **Detailed Comments:**

# **ASN.1 ASP Constraint Declaration** Constraint Name: ca\_RB\_UM\_DL\_Info(p\_CellId: INTEGER; p\_RB\_Id: INTEGER; p\_LogChMapping: RB\_LogCH\_Mapping) Group **ASP Type** : CRLC\_Config\_REQ **Derivation Path** Comments **Constraint Value** cellId p\_CellId, routingInfo rB\_Identity: p\_RB\_Id, ratType fdd, configMessage setup : { sS\_rlc\_Info { sS\_dl\_RLC\_Mode { dl\_PayloadSize 152, dl\_RLCModeInfo ul\_UM\_RLC\_Mode: { transmissionRLC\_Discard timerBasedNoExplicit: dt100 } rB\_LogCH\_Mapping p\_LogChMapping

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_RB_UM_Info(p_CellId: INTEGER; p_RB_Id: INTEGER; p_LogChMapping:
                  RB_LogCH_Mapping)
Group
ASP Type
                : CRLC_Config_REQ
Derivation Path
Comments
                : Used to setup UM RLC entity
                                               Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB_Id,
 ratType fdd,
 configMessage\ setup: \{
  sS_rlc_Info { sS_ul_RLC_Mode dl_UM_RLC_Mode :NULL,
   sS_dl_RLC_Mode{
    dl_PayloadSize 136,
    dl_RLCModeInfo ul_UM_RLC_Mode: {
     transmissionRLC_Discard timerBasedNoExplicit: dt100
  rB_LogCH_Mapping p_LogChMapping
Detailed Comments: dl_PayloadSize = TB_Size - 12 = 136
```

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_RL\_RelCnf (p\_CellId : INTEGER; p\_PhyCH : PhysicalChannelIdentity)
Group :
ASP Type : CPHY\_RL\_Release\_CNF
Derivation Path :
Comments : To confirm that a specified physical channel has been released

Constraint Value

{
 cellId p\_CellId,
 routingInfo physicalChannelIdentity : p\_PhyCH
}
Detailed Comments :

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_RL_RelReq(p_CellId : INTEGER; p_PhyCH : PhysicalChannelIdentity)

Group :

ASP Type : CPHY_RL_Release_REQ

Derivation Path :

Comments : To release the specified physical channel.

Constraint Value

{
    cellId p_CellId,
    routingInfo physicalChannelIdentity : p_PhyCH
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_RL_SetupCnf(
                  p_CellId: INTEGER;
                  p_PhyChld: INTEGER
Group
ASP Type
                : CPHY_RL_Setup_CNF
Derivation Path
Comments
                                              Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: p_PhyChId
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_sCCPCH_Info (p_CellId: INTEGER; p_PhyChId: INTEGER; p_SndScramCode: INTEGER;
                  p_ChannelizationCode: SF256_AndCodeNumber;
                  p_SlotFormat: SCCPCHSlotFormat;
                  p_TxPower : DL_TxPower;
                  p_Timing: INTEGER )
Group
ASP Type
                : CPHY_RL_Setup_REQ
Derivation Path :
Comments
                : For FDD mode only,
                                               Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: p_PhyChId,
 ratType fdd,
 setupMessage {
  physicalChannelInfo secondaryCCPCHInfo : {
   scramblingCode p_SndScramCode,
   dl_ChannelizationCode p_ChannelizationCode,
   sCCPCHSlotFormat p_SlotFormat,
   timingOffset p_Timing,
   positionFixedOrFlexible flexible,
   sttd_Indicator FALSE,
   dl_TxPower p_TxPower,
   powerOffsetOfTFCI_PO1 tsc_sCCPCH_PowerOffsetTFCI,
   powerOffsetOfPILOT_PO3 tsc_sCCPCH_PowerOffsetPILOT
}
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
\textbf{Constraint Name} \ : \ ca\_SchedulLater(p\_CellId: INTEGER; p\_REP: INTEGER; p\_POS: INTEGER; p\_Timing: later (p\_CellId: INTEGER; p\_REP: INTEGER; 
                                                                                                         BCCH_ModificationTime)
Group
ASP Type
                                                                                              : CMAC_SYSINFO_Config_REQ
Derivation Path :
Comments
                                                                                              : scheduling information for system information change at the frame = p_Timing.
                                                                                                                                                                                                                                                                                  Constraint Value
     cellId p_CellId,
     routingInfo rB_Identity: tsc_RB_BCCH,
     ratType fdd,
     configMessage {
           sg_REP p_REP,
sg_POS p_POS,
           bcch_ModificationTime p_Timing
```

Detailed Comments: ?? for MIB

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_SchedulNow(p_CellId: INTEGER; p_REP: INTEGER; p_POS: INTEGER)
Group
ASP Type
                : CMAC_SYSINFO_Config_REQ
Derivation Path :
Comments
                : scheduling information for immediately change
                                               Constraint Value
 cellid p_Cellid,
 routingInfo rB_Identity: tsc_RB_BCCH,
 ratType fdd,
 configMessage {
  sg_REP p_REP,
  sg_POS p_POS,
  bcch_ModificationTime OMIT
}
Detailed Comments: ?? for MIB
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: ca_sSCH_Info(p_CellId: INTEGER; p_TxPower: DL_TxPower)
Group
ASP Type
                : CPHY_RL_Setup_REQ
Derivation Path :
Comments
                : For FDD mode only
                                                Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: tsc_S_SCH,
 ratType fdd,
 setupMessage {
  physicalChannelInfo secondarySCHInfo : {
   tstdIndicator FALSE,
   dl_TxPower p_TxPower
}
Detailed Comments: PhysycalChannelIdentity for s-SCH is fixed as tsc_sSCH;
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_SyncInd (p_PhysicalChannelIdentity : PhysicalChannelIdentity)
Group :
ASP Type : CPHY_Sync_IND
Derivation Path :
Comments :

Constraint Value

{
    cellId ?,
    routingInfo physicalChannelIdentity: p_PhysicalChannelIdentity
}
Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_SysInfoCfgCnf(p_CellId: INTEGER; p_RB_Identity: SS_RB_Identity)

Group :
ASP Type : CMAC_SYSINFO_Config_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity : p_RB_Identity
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : ca_TR_DataReq(p_CellId : INTEGER; p_RB : SS_RB_Identity ; p_Message : BCCH_BCH_Message)

Group :

ASP Type : RLC_TR_DATA_REQ

Derivation Path :

Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity : p_RB,
    tM_message bCCH_BCH_Message : p_Message
}

Detailed Comments :
```

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_TrChCfgCnf(p\_CellId: INTEGER; p\_PhyChId: INTEGER)

Group :
ASP Type : CPHY\_TrCH\_Config\_CNF

Derivation Path :
Comments :

Constraint Value

{
 cellId p\_CellId,
 routingInfo physicalChannelIdentity: p\_PhyChId
}

**Detailed Comments:** 

ASN.1 ASP Constraint Declaration

Constraint Name : ca\_TrChCfgInfo(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_Type : TrChConfigType;p\_TrChConfig: CphyTrchConfigReq)

Group :
ASP Type : CPHY\_TrCH\_Config\_REQ

Derivation Path :
Comments :

Constraint Value

{
cellId p\_CellId, routingInfo physicalChannelIdentity: p\_PhyChId, ratType fdd, trchConfigType p\_Type, configMessage p\_TrChConfig}
}

Detailed Comments :

Constraint Name: ca\_UL\_DPCH\_Info(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_UL\_DPCHInfo:

UL\_DPCH\_Info)

Group :

**ASP Type** : CPHY\_RL\_Setup\_REQ

Derivation Path :

**Comments**: To setup uplink physical channel DPCH.

### **Constraint Value**

```
{
    cellId p_CellId,
    routingInfo physicalChannelIdentity: p_PhyChld,
    ratType fdd,
    setupMessage {
        physicalChannelInfo dPCHInfo : {
            ul_DPCHInfo p_UL_DPCHInfo
        }
    }
```

### **Detailed Comments:**

### **ASN.1 ASP Constraint Declaration**

Constraint Name: ca\_UL\_DPCH\_ModifyInfo(p\_CellId: INTEGER; p\_PhyChId: INTEGER; p\_UL\_DPCHInfo:

UL\_DPCH\_Info; p\_ActivationTime : ActivationTime)

Group :

**ASP Type** : CPHY\_RL\_Modify\_REQ

Derivation Path :

**Comments**: To setup uplink physical channel DPDCH.

### **Constraint Value**

```
cellId p_CellId,
routingInfo physicalChannelIdentity: p_PhyChId,
ratType fdd,
modifyMessage {
   activationTime activationCFN : p_ActivationTime,
   physicalChannelInfo dPCHInfo : {
    ul_DPCHInfo p_UL_DPCHInfo
   }
}
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: cab_RACH_InfoActNow (p_CellId: INTEGER; p_PhyChId: INTEGER)
Group
ASP Type
                 : CPHY_TrCH_Config_REQ
Derivation Path :
Comments
                 : For FDD mode only
                                                  Constraint Value
 cellid p_Cellid,
 routingInfo physicalChannelIdentity: p_PhyChld,
 ratType fdd.
 trchConfigType nonDch: NULL,
 configMessage {
  activationTime activateNow: NULL,
  ulconnectedTrCHList {{
    trchid tsc_RACH1,
    ul_TransportChannelType rach,
    transportChannelInfo c_RACH_TFS
  ulTFCS c_TFCS_Cmpl0_1_Rx,
  dlconnectedTrCHList OMIT,
  dITFCS OMIT
Detailed Comments: For RACH transport channel the following parameters are fixed by core spec. (34.108 cl.
                      6.10.2.4.4):
                      TTI = 20 \text{ ms};
                      two transport format: TransportBlocks = 1, TB size = 168 bits and TransportBlocks = 1, TB size =
                      360 bits;
                      coding = convolutional;
                      coding rate = 1/2;
                      CRCsize = 16;
                      RateMatching = 1
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_CRLC_IntegrityFail
Group :
ASP Type : CRLC_Integrity_Failure_IND
Derivation Path :
Comments :

Constraint Value

{
    cellId ?,
    routingInfo ?,
    failureCause codeNotMatched
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_CRLC_RRC_MessageSN_CNF(p_CellId, p_RBID : INTEGER )

Group :
ASP Type : CRLC_RRC_MessageSN_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity : p_RBID,
    count_I_MSB_UL ?,
    count_I_LSB_UL ?,
    count_I_LSB_UL ?,
    count_I_LSB_DL ?
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_GetFrameNum (p_CellId: INTEGER; p_PhysicalChannelIdentity: PhysicalChannelIdentity)

Group :

ASP Type : CPHY_Frame_Number_CNF

Derivation Path :

Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo physicalChannelIdentity : p_PhysicalChannelIdentity,
    frameNumber ?
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_GetRLC_SeqNum(p_CellId: INTEGER; p_RB_Id: INTEGER)

Group :
ASP Type : CRLC_SequenceNumber_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    count_C_MSB_UL?,
    count_C_LSB_UL?,
    count_C_LSB_DL?,
    count_C_LSB_DL?
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_IniCnf
Group :
ASP Type : CPHY_Ini_CNF
Derivation Path :
Comments : Confirm the test initialisation

Constraint Value

{
    confirmation NULL
}
Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: car_MeasRepAM (
                 p_CellId: INTEGER;
                 p_RB : INTEGER;
                 p_Pdu: UL_DCCH_Message
Group
ASP Type
                : RLC_AM_DATA_IND
Derivation Path
Comments
                                             Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB,
 integrityResult?,
 aM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name : car_MeasRepUM(
                 p_CellId : INTEGER;
                 p_RB: INTEGER;
                 p_Pdu: UL_DCCH_Message )
Group
ASP Type
                : RLC_UM_DATA_IND
Derivation Path
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity : p_RB ,
 integrityResult?,
 uM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: car_RB_ReconfCmpl(
                    p_CellId: INTEGER;
                    p_RouteInfo : INTEGER;
                    p_PDU: UL_DCCH_Message
Group
ASP Type
                : RLC_AM_DATA_IND
Derivation Path
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RouteInfo,
 integrityResult?,
 aM_message uL_DCCH_Message : p_PDU
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: car_RB_RelCmpl(
                   p_CellId: INTEGER;
                   p_RB_Id: INTEGER;
                   p_PDU: UL_DCCH_Message
Group
ASP Type
                : RLC_AM_DATA_IND
Derivation Path
Comments
                                              Constraint Value
 cellid p_Cellid,
 routingInfo rB_Identity: p_RB_Id,
 integrityResult?,
 aM_message uL_DCCH_Message : p_PDU
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name : car_RB_SetUpCmpl(
                 p_CellId: INTEGER;
                 p_RB :INTEGER ;
                 p_Pdu: UL_DCCH_Message
Group
ASP Type
               : RLC_AM_DATA_IND
Derivation Path :
Comments
                                             Constraint Value
cellId p_CellId,
routingInfo rB_Identity: p_RB,
integrityResult?,
aM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_ResumeRB(p_CellId: INTEGER; p_RB_Id: INTEGER)

Group :
ASP Type : CRLC_Resume_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_RRC_ConnRelCmpl(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu: UL_DCCH_Message)

Group :
ASP Type : RLC_AM_DATA_IND

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    integrityResult ?,
    aM_message uL_DCCH_Message : p_Pdu
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_RRC_ConnRelCmplUM(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu:UL_DCCH_Message)
Group :
ASP Type : RLC_UM_DATA_IND
Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    integrityResult ?,
    uM_message uL_DCCH_Message : p_Pdu
}
Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_RRC_ConnReq(p_CellId: INTEGER; p_RB_Id: SS_RB_Identity; p_Pdu: UL_CCCH_Message)

Group :

ASP Type : RLC_TR_DATA_IND

Derivation Path :

Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    tM_message uL_CCCH_Message : p_Pdu
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name: car_RRC_ConnSetupCmpl(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu: UL_DCCH_Message)
Group:
ASP Type: RLC_AM_DATA_IND
Derivation Path: Comments:

Comments: Constraint Value

{
    cellId p_CellId, routingInfo rB_Identity: p_RB_Id, integrityResult?, aM_message uL_DCCH_Message: p_Pdu
}

Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
\textbf{Constraint Name} \ : \ \mathsf{car} \_ \mathsf{RRC} \_ \mathsf{SecModeCmpl} (
                    p_CellId: INTEGER;
                    p_RB : INTEGER ;
                    p_Pdu: UL_DCCH_Message
Group
ASP Type
                  : RLC_AM_DATA_IND
Derivation Path
Comments
                                                    Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB,
 integrityResult?,
 aM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: car_RRC_SecModeFail(
                   p_CellId: INTEGER;
                   p_RB: INTEGER;
                   p_Pdu: UL_DCCH_Message)
Group
ASP Type
                : RLC_AM_DATA_IND
Derivation Path
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB,
 integrityResult?,
 aM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: car_RRC_Status(
                   p_CellId: INTEGER;
                   p_RBId:INTEGER;
                   p_Pdu: UL_DCCH_Message)
Group
ASP Type
               : RLC_AM_DATA_IND
Derivation Path :
Comments
                :
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RBId,
 integrityResult?,
 aM_message uL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : car_SuspendRB ( p_CellId: INTEGER; p_RB_Id: INTEGER )

Group :
ASP Type : CRLC_Suspend_CNF

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    vt ?
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_CRLC_RRC_MessageSN_REQ(p_CellId, p_RBID : INTEGER )

Group :
ASP Type : CRLC_RRC_MessageSN_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity : p_RBID
}

Detailed Comments :
```

# ASN.1 ASP Constraint Declaration Constraint Name : cas\_GetFrameNum (p\_CellId: INTEGER; p\_PhysicalChannelIdentity: PhysicalChannelIdentity) Group : ASP Type : CPHY\_Frame\_Number\_REQ Derivation Path : Comments : Constraint Value { cellId p\_CellId, routingInfo physicalChannelIdentity: p\_PhysicalChannelIdentity

**Detailed Comments:** 

### **ASN.1 ASP Constraint Declaration**

Constraint Name: cas\_GetRLC\_SeqNum(p\_CellId: INTEGER; p\_RB\_Id: INTEGER)

Group :

**ASP Type** : CRLC\_SequenceNumber\_REQ

Derivation Path : Comments :

**Constraint Value** 

{
 cellId p\_CellId,
 routingInfo rB\_Identity: p\_RB\_Id

**Detailed Comments:** 

### **ASN.1 ASP Constraint Declaration**

Constraint Name: cas\_InitReqDef

Group :

**ASP Type** : CPHY\_Ini\_REQ

Derivation Path :

**Comments** : Request to initialise the test

**Constraint Value** 

defaultRadioEnvironment

# ASN.1 ASP Constraint Declaration Constraint Name : cas\_InitReqNonDef Group : ASP Type : CPHY\_Ini\_REQ Derivation Path : Comments : Request to initialise the test Constraint Value

Detailed Comments :

Constraint Name : cas\_MAC\_Rel (p\_CellId: INTEGER; p\_PhyChld: INTEGER)

Group :
ASP Type : CMAC\_Config\_REQ

Derivation Path :
Comments :

Constraint Value

{
 cellId p\_CellId, routingInfo physicalChannelIdentity: p\_PhyChld, ratType fdd, configMessage release : NULL
}

```
ASN.1 ASP Constraint Declaration
Constraint Name: cas_PagingType1(
                 p_CellId: INTEGER;
                 p_RB_ld: SS_RB_ldentity;
                 p_Pdu: PCCH_Message
Group
ASP Type
                : RLC_TR_DATA_REQ
Derivation Path
               :
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB_Id,
 tM_message pCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: cas_RB_ReconfigureWithCnf(
                  p_CellId: INTEGER;
                  p_RB_ld: INTEGER;
                  p_Mui : Mui;
                  p_Pdu: DL_DCCH_Message)
Group
ASP Type
                : RLC_AM_DATA_REQ
Derivation Path
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB_Id,
 confirmationRequest confirmationRequested: p_Mui,
 aM_message dL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: cas_RB_Release (
                 p_CellId: INTEGER;
                 p_RB_ld: INTEGER;
                 p_Pdu: DL_DCCH_Message)
Group
ASP Type
                : RLC_AM_DATA_REQ
Derivation Path
Comments
                                              Constraint Value
 cellId p_CellId,
 routingInfo rB_Identity: p_RB_Id,
 confirmationRequest noConfirmationRequest : NULL,
 aM_message dL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration
Constraint Name: cas_RB_SetUpAM_WithCnf(
                 p_CellId: INTEGER;
                 p_RB_Id: INTEGER;
                 p_Mui : Mui;
                 p_Pdu: DL_DCCH_Message
Group
ASP Type
                : RLC_AM_DATA_REQ
Derivation Path :
Comments
                                              Constraint Value
 cellid p_Cellid,
 routingInfo rB_Identity: p_RB_Id,
 confirmationRequest confirmationRequested: p_Mui,
 aM_message dL_DCCH_Message : p_Pdu
Detailed Comments:
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_ResumeRB(p_CellId: INTEGER; p_RB_Id: INTEGER)

Group :
ASP Type : CRLC_Resume_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_RLC_SuspendRB(p_CellId: INTEGER; p_RB_Id: INTEGER; p_RLC_SeqNum: RLC_SequenceNumber)

Group :
ASP Type : CRLC_Suspend_REQ
Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    n p_RLC_SeqNum
}
Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_RRC_ConnRelCCCH(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu: DL_CCCH_Message)

Group :
ASP Type : RLC_UM_DATA_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    uM_message dL_CCCH_Message : p_Pdu,
    specialLI TRUE
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_RRC_ConnRelDCCH(p_CellId: INTEGER; p_RB_ld: INTEGER; p_Pdu : DL_DCCH_Message)

Group :
ASP Type : RLC_UM_DATA_REQ
Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_ldentity: p_RB_ld,
    uM_message dL_DCCH_Message : p_Pdu,
    specialLI FALSE
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_RRC_ConnSetup(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu: DL_CCCH_Message)

Group :
ASP Type : RLC_UM_DATA_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellId p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    uM_message dL_CCCH_Message : p_Pdu,
    specialLI TRUE
}

Detailed Comments :
```

```
ASN.1 ASP Constraint Declaration

Constraint Name : cas_RRC_SecModeCmd(p_CellId: INTEGER; p_RB_Id: INTEGER; p_Pdu: DL_DCCH_Message)
Group :

ASP Type : RLC_AM_DATA_REQ

Derivation Path :
Comments :

Constraint Value

{
    cellIld p_CellId,
    routingInfo rB_Identity: p_RB_Id,
    confirmationRequest noConfirmationRequest : NULL,
    aM_message dL_DCCH_Message : p_Pdu
```

### **PDU Constraint Declaration**

Constraint Name : c\_AMD\_Default

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used as the default value for tsc\_AMD\_PDU

| Field Name        | Field Value                     | Field Encoding | Comments |
|-------------------|---------------------------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU                   |                |          |
| seqNum            | INT_TO_BIT( 0, tsc_AM_SN_Size ) |                |          |
| pollingBit        | tsc_P_NoPoll                    |                |          |
| headerExt         | tsc_HE_Data                     |                |          |
| lenInds           | _                               |                |          |
| data              | _                               |                |          |
| piggybackedStatus | _                               |                |          |
| padding           | _                               |                |          |

**Detailed Comments:** 

### **PDU Constraint Declaration**

Constraint Name : c\_UMD(p\_SN: INTEGER; p\_Data: UM\_Data )

Group

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to represent a UM PDU containing data, no length

indicators, and no padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Data:

The data to be included in the PDU. It is the callers responsibility to ensure

that the data size is exactly equal to the current PDU size.

| Field Name          | Field Value   | Field Encoding | Comments |
|---------------------|---|----------------|----------|
| uMD_PDU_msg         | c_UMD_MSG( INT_TO_BIT( p_SN, tsc_UM_SN_Size ),  tsc_E_Data, OMIT, p_Data) |                |          |
| padding             | _   |                |          |
| Detailed Comments : |   |                |          |

### **PDU Constraint Declaration**

Constraint Name : c\_UMD\_Default

Group :

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used as the default value for tcv\_UMD\_PDU

|             |   | Field Encoding | Comments |
|-------------|---|----------------|----------|
| uMD_PDU_msg | c_UMD_MSG( INT_TO_BIT( 0, tsc_UM_SN_Size ), tsc_E_Data, OMIT. |                |          |
|             | OMIT)   |                |          |
| padding     | -   |                |          |

### **PDU Constraint Declaration**

Constraint Name : c\_UMD\_LIs(p\_SN: INTEGER; p\_LIs: LenInds; p\_Data: UM\_Data )

Group :

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to represent a UM PDU containing data and a length

indicator group, and no padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Lls:

The length indicator group to be used in the PDU. This field must contain at

least one LI.

p\_Data:

The data to be included in the PDU. It is the callers responsibility to ensure that the data size + the LI group size is exactly equal to the current PDU size.

|                     |  | * '            |          |
|---------------------|--|----------------|----------|
| Field Name          | Field Value  | Field Encoding | Comments |
| uMD_PDU_msg         | c_UMD_MSG( INT_TO_BIT( p_SN, tsc_UM_SN_Size ), tsc_E_LI_AndE_Bit, p_LIs, p_Data) |                |          |
| padding             | _  |                |          |
| Datailed Comments . |  |                |          |

### **PDU Constraint Declaration**

Constraint Name : cr\_AMD\_Any

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to receive an AM PDU with any combination of fields.

| Field Name          | Field Value                   | Field Encoding | Comments |
|---------------------|-------------------------------|----------------|----------|
| dcField             | tsc_DC_AMDPDU                 |                |          |
| seqNum              | ?                             |                |          |
| pollingBit          | ?                             |                |          |
| headerExt           | ?                             |                |          |
| lenInds             | cr_LenIndsAny<br>IF_PRESENT   |                |          |
| data                | *                             |                |          |
| piggybackedStatus   | cr_PB_StatusAny<br>IF_PRESENT |                |          |
| padding             | *                             |                |          |
| Detailed Comments : |                               |                |          |

### **PDU Constraint Declaration**

Constraint Name : cr\_AMD\_Data( p\_Data: AM\_Data )

Group :

**PDU Type** 

: AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive an AM PDU containing data, no length

indicators, and no piggybacked status. Any padding present is ignored.

Parameters: p\_Data:

The data expected to be received.

| Field Name        | Field Value   | Field Encoding | Comments |
|-------------------|---------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU |                |          |
| seqNum            | ?             |                |          |
| pollingBit        | ?             |                |          |
| headerExt         | tsc_HE_Data   |                |          |
| lenInds           | _             |                |          |
| data              | p_Data        |                |          |
| piggybackedStatus | -             |                |          |
| padding           | *             |                |          |

Constraint Name : cr\_AMD\_DataNoPoll( p\_Data: AM\_Data )

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive an AM PDU containing data, no length

indicators, and no piggybacked status. Any padding present is ignored. Pollbit=0!

Parameters: p\_Data:

The data expected to be received.

| Field Name        | Field Value   | Field Encoding | Comments |
|-------------------|---------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU |                |          |
| seqNum            | ?             |                |          |
| pollingBit        | '0'B          |                |          |
| headerExt         | tsc_HE_Data   |                |          |
| lenInds           | _             |                |          |
| data              | p_Data        |                |          |
| piggybackedStatus | _             |                |          |
| padding           | *             |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

Constraint Name : cr\_AMD\_LI\_Data( p\_Lls: LenInds; p\_Data: AM\_Data )

Group

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to receive an AM PDU containing data, a length

indicator group, and no piggybacked status. Any padding present is ignored.

Parameters: p\_LIs:

The length indicator group expected to be received. This LI group must contain

at least one LI.

p\_Data:

The data expected to be received.

| 1110              | The data expected to be received. |                |          |
|-------------------|-----------------------------------|----------------|----------|
| Field Name        | Field Value                       | Field Encoding | Comments |
| dcField           | tsc_DC_AMDPDU                     |                |          |
| seqNum            | ?                                 |                |          |
| pollingBit        | ?                                 |                |          |
| headerExt         | tsc_HE_LI_AndE_Bit                |                |          |
| lenInds           | p_LIs                             |                |          |
| data              | p_Data                            |                |          |
| piggybackedStatus | _                                 |                |          |
| padding           | *                                 |                |          |
|                   |                                   |                |          |

Constraint Name : cr\_AMD\_LI\_DataStatus( p\_LIsPB: LenInds; p\_Data: AM\_Data )

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive an AM PDU containing data, a length

indicator group, and a piggybacked status PDU containing the given superfields.

Any padding present is ignored.

Parameters: p\_LIs:

The length indicator group expected to be received. This LI group must contain at least one LI. It is the callers responsibility to ensure that there is an LI present indicating that the PDU contains a piggybacked status PDU.

p\_Data:

The data expected to be received.

p\_Superfields:

The SUFI list expected to be present in the piggybacked status PDU.

| Field Name        | Field Value        | Field Encoding | Comments |
|-------------------|--------------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU      |                |          |
| seqNum            | ?                  |                |          |
| pollingBit        | ?                  |                |          |
| headerExt         | tsc_HE_LI_AndE_Bit |                |          |
| lenInds           | p_LIsPB            |                |          |
| data              | p_Data             |                |          |
| piggybackedStatus | cr_PB_Status       |                |          |
| padding           | *                  |                |          |

**Detailed Comments:** 

# **PDU Constraint Declaration**

Constraint Name : cr\_PB\_Status

Group :

PDU Type : PiggyBackedSTATUS\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive a piggybacked STATUS PDU within an AMD PDU

containing the given SUFI list. Padding is handled within the RLC PDU

containing this piggybacked STATUS PDU.

| Field Name          | Field Value        | Field Encoding | Comments |
|---------------------|--------------------|----------------|----------|
| r                   | '0'B               |                |          |
| type                | tsc_PDU_TypeStatus |                |          |
| superFields         | ОМІТ               |                |          |
| superFieldsRec      | ?                  |                |          |
| Detailed Comments : |                    |                |          |

Constraint Name : cr\_PB\_StatusAny

Group :

PDU Type : PiggyBackedSTATUS\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive any piggybacked STATUS PDU within an AMD PDU

| Field Name     | Field Value        | Field Encoding | Comments |
|----------------|--------------------|----------------|----------|
| r              | '0'B               |                |          |
| type           | tsc_PDU_TypeStatus |                |          |
| superFields    | OMIT               |                |          |
| superFieldsRec | ?                  |                |          |
|                |                    |                |          |

**Detailed Comments:** 

# **PDU Constraint Declaration**

Constraint Name : cr\_ResetAck

Group :

PDU Type : RESET\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to receive a RESET ACK PDU.

| Field Name | Field Value          | Field Encoding | Comments      |
|------------|----------------------|----------------|---------------|
| dC_Field   | tsc_DC_ControlPDU    |                | 1 bit         |
| type       | tsc_PDU_TypeResetAck |                | 3 bits        |
| rsn        | ?                    |                | 1 bit         |
| reserved   | '000'B               |                | 3 bits        |
| hfni       | ?                    |                | 5 half octets |
| padding    | *                    |                |               |
| -          |                      |                |               |

Constraint Name : cr\_ResetAny

Group :

PDU Type : RESET\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to receive any RESET PDU.

| Field Value       | Field Encoding                                 | Comments                                       |
|-------------------|--|--|
| tsc_DC_ControlPDU |  |  |
| tsc_PDU_TypeReset |  |  |
| ?                 |  |  |
| '000'B            |  |  |
| ?                 |  |  |
| *                 |  |  |
|                   | tsc_DC_ControlPDU tsc_PDU_TypeReset ? '000'B ? | tsc_DC_ControlPDU tsc_PDU_TypeReset ? '000'B ? |

**Detailed Comments:** 

### **PDU Constraint Declaration**

Constraint Name : cr\_StatusOmit

Group :

PDU Type : STATUS\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to receive an AM STATUS PDU containing the given SUFI

list. Any padding included is ignored.

| Field Value        | Field Encoding                                 | Comments                                       |
|--------------------|--|--|
| tsc_DC_ControlPDU  |  |  |
| tsc_PDU_TypeStatus |  |  |
| OMIT               |  |  |
| OMIT               |  |  |
| OMIT               |  |  |
|                    | tsc_DC_ControlPDU tsc_PDU_TypeStatus OMIT OMIT | tsc_DC_ControlPDU tsc_PDU_TypeStatus OMIT OMIT |

Constraint Name : cr\_UMD\_Any

Group :

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to receive any UMD PDU.

| Field Name  | Field Value                     | Field Encoding | Comments |
|-------------|---------------------------------|----------------|----------|
| uMD_PDU_msg | c_UMD_MSG( ?, ?, cr_LenIndsAny, |                |          |
| padding     | *)                              |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

Constraint Name : cr\_UMD\_PDU\_Split(p\_UMD\_PDU\_msg: UMD\_PDU\_MSG;p\_Padding: Padding)

Group :

PDU Type : UMD\_PDU

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name  | Field Value   | Field Encoding | Comments |
|-------------|---------------|----------------|----------|
| uMD_PDU_msg | p_UMD_PDU_msg |                |          |
| padding     | p_Padding     |                |          |
|             |               |                |          |

Constraint Name : cs\_AMD(p\_SN: INTEGER; p\_Poll: PollingBit; p\_Data: AM\_Data )

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to send an AM PDU containing data, no length

indicators, and no padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p Poll

The value of the Poll bit. This parameter must be one of the following values:

tsc\_P\_Poll, tsc\_P\_NoPoll.

p\_Data:

The data to be included in the PDU. It is the callers responsibility to ensure

that the data size is exactly equal to the current PDU size.

| Field Name        | Field Value                        | Field Encoding | Comments |
|-------------------|------------------------------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU                      |                |          |
| seqNum            | INT_TO_BIT( p_SN, tsc_AM_SN_Size ) |                |          |
| pollingBit        | p_Poll                             |                |          |
| headerExt         | tsc_HE_Data                        |                |          |
| lenInds           | _                                  |                |          |
| data              | p_Data                             |                |          |
| piggybackedStatus | _                                  |                |          |
| padding           | _                                  |                |          |

Constraint Name : cs\_AMD\_Lls(p\_SN: INTEGER;p\_Poll: PollingBit; p\_Lls: LenInds; p\_Data:AM\_Data )

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to send an AM PDU containing data and a length

indicator group, and no padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Poll

The value of the Poll bit. This parameter must be one of the following values:

tsc\_P\_Poll, tsc\_P\_NoPoll.

p\_LIs:

The length indicator group to be used in the PDU. This field must contain at

least one LI.

p\_Data:

The data to be included in the PDU. It is the callers responsibility to ensure that the data size + the LI group size is exactly equal to the current PDU size.

| Field Name        | Field Value                        | Field Encoding | Comments |
|-------------------|------------------------------------|----------------|----------|
| dcField           | tsc_DC_AMDPDU                      |                |          |
| seqNum            | INT_TO_BIT( p_SN, tsc_AM_SN_Size ) |                |          |
| pollingBit        | p_Poll                             |                |          |
| headerExt         | tsc_HE_LI_AndE_Bit                 |                |          |
| lenInds           | p_Lls                              |                |          |
| data              | p_Data                             |                |          |
| piggybackedStatus | _                                  |                |          |
| padding           | _                                  |                |          |
|                   |                                    |                |          |

Constraint Name : cs\_AMD\_LlsAndPad(p\_SN: INTEGER;p\_Poll: PollingBit; p\_Lls: LenInds;

p\_Data:AM\_Data;p\_NumHalfOctetsPadding: INTEGER )

Group :

PDU Type : AMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to send an AM PDU containing data and a length

indicator group, and padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Poll:

The value of the Poll bit. This parameter must be one of the following values:

tsc\_P\_Poll, tsc\_P\_NoPoll.

p\_Lls:

The length indicator group to be used in the PDU. This field must contain at

least one LI.

p\_Data:

The data to be included in the PDU.

p\_NumHalfOctetsPadding:

The number of half octets of padding to be included at the end of the PDU. It is the callers responsibility to ensure that the LI group size + the data size

+ the padding size is exactly equal to the current PDU size.

| Field Name        | Field Value                             | Field Encoding | Comments |
|-------------------|---|----------------|----------|
| dcField           | tsc_DC_AMDPDU                           |                |          |
| seqNum            | INT_TO_BIT( p_SN, tsc_AM_SN_Size )      |                |          |
| pollingBit        | p_Poll                                  |                |          |
| headerExt         | tsc_HE_LI_AndE_Bit                      |                |          |
| lenInds           | p_LIs                                   |                |          |
| data              | p_Data                                  |                |          |
| piggybackedStatus | _                                       |                |          |
| padding           | INT_TO_HEX( 0, p_NumHalfOctetsPadding ) |                |          |
|                   |   |                |          |

Constraint Name : cs\_Reset( p\_RSN: RSN; p\_HFNI: HFNI; p\_NumHalfOctetsPadding: INTEGER )

Group :

PDU Type : RESET\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to send a RESET PDU.

Parameters: p\_RSN:

The reset sequence number to be used.

p\_HFNI:

The hyper frame number indicator. This is normally set to the currently used

HFN.

p\_NumHalfOctetPadding:

The number of half octets to add to the end of the PDU to ensure that the RESET

PDU is one of the allowed PDU sizes.

It is the users responsibility to ensure that (  $p_NumHalfOctetsPadding + 7$  ) / 2

is equal to the current PDU size.

| Field Name | Field Value                             | Field Encoding | Comments      |
|------------|---|----------------|---------------|
| dC_Field   | tsc_DC_ControlPDU                       |                | 1 bit         |
| type       | tsc_PDU_TypeReset                       |                | 3 bits        |
| rsn        | p_RSN                                   |                | 1 bit         |
| reserved   | '000'B                                  |                | 3 bits        |
| hfni       | p_HFNI                                  |                | 5 half octets |
| padding    | INT_TO_HEX( 0, p_NumHalfOctetsPadding ) |                |               |

Constraint Name : cs\_ResetAck( p\_RSN: RSN; p\_HFNI: HFNI; p\_NumHalfOctetsPadding: INTEGER )

Group :

PDU Type : RESET\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: This constraint is used to send a RESET ACK PDU.

Parameters: p\_RSN:

The reset sequence number to be used.

p\_HFNI:

The hyper frame number indicator. This is normally set to the currently used

HFN.

p\_NumHalfOctetPadding:

The number of half octets to add to the end of the PDU to ensure that the RESET

PDU is one of the allowed PDU sizes.

It is the users responsibility to ensure that (  $p_NumHalfOctetsPadding + 7$  ) / 2

is equal to the current PDU size.

| Field Name | Field Value                             | Field Encoding | Comments      |
|------------|---|----------------|---------------|
| dC_Field   | tsc_DC_ControlPDU                       |                | 1 bit         |
| type       | tsc_PDU_TypeResetAck                    |                | 3 bits        |
| rsn        | p_RSN                                   |                | 1 bit         |
| reserved   | '000'B                                  |                | 3 bits        |
| hfni       | p_HFNI                                  |                | 5 half octets |
| padding    | INT_TO_HEX( 0, p_NumHalfOctetsPadding ) |                |               |

Constraint Name : cs\_StatusAndPad( p\_SuperFields: SuperFields; p\_NumHalfOctetsPadding: INTEGER )

Group :

PDU Type : STATUS\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to send an AM STATUS PDU containing the given

superfields.

Parameters: p\_SuperFields:

The super-fields to be included in the STATUS PDU.

 $p\_Padding Size Half Octets:$ 

The number of half octets to be added at the end of the PDU. In general, this

parameter will contain the value (2 \*( tcv\_PayloadSize + 2)) - (p\_SuperFields size + 1)

NOTE: SUFI list size = p\_Superfields size + 1 half octet (for D/C field and Type)

NOTE: 2 is added to the payload size since the AMD header is not present in the STATUS PDU.

| Field Name          | Field Value                             | Field Encoding | Comments |
|---------------------|---|----------------|----------|
| dC_Field            | tsc_DC_ControlPDU                       |                | 1 bit    |
| type                | tsc_PDU_TypeStatus                      |                | 3 bits   |
| superFieldsTx       | p_SuperFields                           |                |          |
| superFieldsAndPadRx | ОМІТ                                    |                |          |
| paddingTx           | INT_TO_HEX( 0, p_NumHalfOctetsPadding ) |                |          |

Constraint Name : cs\_UMD\_LIsAndPad(p\_SN: INTEGER; p\_LIs: LenInds;

p\_Data:UM\_Data;p\_NumHalfOctetsPadding: INTEGER )

Group :

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to represent a UM PDU containing data, a length

indicator group, and padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p Lls:

The length indicator group to be used in the PDU. This field must contain at least one LI, and at least one LI indicating that the rest of the PDU contains

p\_Data:

The data to be included in the PDU.

p\_NumHalfOctetsPadding:

The number of half octets padding to be included in the PDU. It is the users responsibility to ensure that the LI group size + the data size + the padding size is exactly equal to the current PDU size. This parameter is used in a call

to INT\_TO\_BIT, so a value must be provided.

|             |  |                | _        |
|-------------|--|----------------|----------|
| Field Name  | Field Value  | Field Encoding | Comments |
| uMD_PDU_msg | c_UMD_MSG(<br>INT_TO_BIT( p_SN,<br>tsc_UM_SN_Size ), |                |          |
|             | tsc_E_LI_AndE_Bit,                                   |                |          |
|             | p_Lls,<br>p_Data)                                    |                |          |
| padding     | INT_TO_HEX( 0, p_NumHalfOctetsPadding )              |                |          |

Constraint Name : cs\_UMD\_NoLlsAndPad(p\_SN: INTEGER; p\_Data:UM\_Data;p\_NumHalfOctetsPadding:

INTEGER)

Group :

PDU Type : UMD\_PDU

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : This constraint is used to represent a UM PDU containing data, NO length

indicator group, and padding.

Parameters: p\_SN:

An integer containing the next sequence number to be transmitted or received. This parameter is used in a call to INT\_TO\_BIT, so a value must be provided.

p\_Data:

The data to be included in the PDU.

p\_NumHalfOctetsPadding:

The number of half octets padding to be included in the PDU. It is the users responsibility to ensure that the LI group size + the data size + the padding size is exactly equal to the current PDU size. This parameter is used in a call

to INT\_TO\_BIT, so a value must be provided.

| Field Name  | Field Value  | Field Encoding | Comments |
|-------------|--|----------------|----------|
| uMD_PDU_msg | c_UMD_MSG(<br>INT_TO_BIT( p_SN,<br>tsc_UM_SN_Size ), |                |          |
|             | tsc_E_Data, OMIT, p_Data)                            |                |          |
| padding     | INT_TO_HEX( 0, p_NumHalfOctetsPadding )              |                |          |
| padding     |  |                |          |

**Detailed Comments:** 

# **PDU Constraint Declaration**

**Constraint Name**: c\_ActivateRB\_TestMode

Group

PDU Type : ACTIVATERBTESTMODE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000100'B |                |          |
|                         |             |                |          |

Constraint Name : c\_ActivateRB\_TestModeCmpl

Group :

PDU Type : ACTIVATERBTESTMODECOMPLETE

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000101'B |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

Constraint Name : c\_AuthFailAny

Group

PDU Type : AUTHENTICATIONFAILURE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value                      | Field Encoding | Comments |
|-------------------------|----------------------------------|----------------|----------|
| skipIndicator           | '0000'B                          |                |          |
| mMProtocolDiscriminator | '0101'B                          |                |          |
| msgType                 | '??011100'B                      |                |          |
| rejCau                  | ?                                |                |          |
| authFailParam           | c_AuthFailParamAny<br>IF_PRESENT |                |          |

 $\textbf{Constraint Name} \qquad : \ c\_AuthReq(p\_KeySeq: KeySeq; p\_RAND: MM\_RAND; p\_AUTN: AUTN) \\$ 

Group :

PDU Type : AUTHENTICATIONREQUEST

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name              | Field Value                | Field Encoding | Comments |
|-------------------------|----------------------------|----------------|----------|
| skipIndicator           | '0000'B                    |                |          |
| mMProtocolDiscriminator | '0101'B                    |                |          |
| msgType                 | '00010010'B                |                |          |
| spare4                  | '0000'B                    |                |          |
| ciphKeySeqNum           | c_CiphKeySeqNum(p_KeyS eq) |                |          |
| rAND                    | p_RAND                     |                |          |
| aUTN                    | p_AUTN                     |                |          |
| Detailed Comments :     |                            |                |          |

# PDU Constraint Declaration

Constraint Name : c\_AuthRspAnyExt

Group :

PDU Type : AUTHENTICATIONRESPONSE

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: Any Authentication Response containing the Authentication Response Extension IE

| ,                       | <u>'</u>        | ,              |          |
|-------------------------|-----------------|----------------|----------|
| Field Name              | Field Value     | Field Encoding | Comments |
| skipIndicator           | '0000'B         |                |          |
| mMProtocolDiscriminator | '0101'B         |                |          |
| msgType                 | '??010100'B     |                |          |
| authRsp                 | ?               |                |          |
| authRspExt              | c_AuthRspExtAny |                |          |
|                         |                 |                |          |

Constraint Name : c\_AuthRspAnyNoExt

Group :

PDU Type : AUTHENTICATIONRESPONSE

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : Any Authentication Response NOT containing the Authentication Response Extension IE

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| mMProtocolDiscriminator | '0101'B     |                |          |
| msgType                 | '??010100'B |                |          |
| authRsp                 | ?           |                |          |
| authRspExt              | -           |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

**Constraint Name** : c\_CloseUE\_TestLoop(p\_UE\_TestLoopMode: UE\_TestLoopMode;

p\_UE\_TestLoopMode1LB\_Setup: UE\_TestLoopMode1LB\_Setup)

Group :

PDU Type : CLOSEUETESTLOOP

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name                   | Field Value                    | Field Encoding | Comments |
|------------------------------|--------------------------------|----------------|----------|
| skipIndicator                | '0000'B                        |                |          |
| tCProtocolDiscriminator      | '1111'B                        |                |          |
| msgType                      | '01000000'B                    |                |          |
| uE_TestLoopMode              | p_UE_TestLoopMode              |                |          |
| uE_TestLoopMode1LB_Setu<br>p | p_UE_TestLoopMode1LB_<br>Setup |                |          |

Constraint Name : c\_CloseUE\_TestLoopCmpl

Group :

PDU Type : CLOSEUETESTLOOPCOMPLETE

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000001'B |                |          |

**Detailed Comments:** 

**PDU Constraint Declaration** 

Constraint Name : c\_DeactivateRB\_TestMode

Group :

PDU Type : DEACTIVATERBTESTMODE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000110'B |                |          |
| Data in 10 annuals      |             |                |          |

**Detailed Comments:** 

# **PDU Constraint Declaration**

Constraint Name : c\_DeactivateRB\_TestModeCmpl

Group :

PDU Type : DEACTIVATERBTESTMODECOMPLETE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000111'B |                |          |
|                         |             |                |          |

**Constraint Name** :  $c\_LocUpdAcpTMSI$  (  $p\_MCC$ : HEXSTRING;  $p\_MNC$ : HEXSTRING;  $p\_LAC$ : OCTETSTRING )

Group

PDU Type : LOCATIONUPDATINGACCEPT

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Value                           | Field Encoding  | Comments  |
|---------------------------------------|---|---|
| '0000'B                               |   |   |
| '0101'B                               |   |   |
| '00000010'B                           |   |   |
| c_LocAreald_v(p_MCC,<br>p_MNC, p_LAC) |   |   |
| c_MobileIdTMSI_Def                    |   |   |
| '10100001'B                           |   |   |
| '10100010'B                           |   |   |
| _                                     |   |   |
| -                                     |   |   |
|                                       | '0000'B '0101'B '00000010'B c_LocAreald_v(p_MCC, p_MNC, p_LAC) c_MobileIdTMSI_Def '10100001'B | '0000'B '0101'B '00000010'B  c_LocAreald_v(p_MCC, p_MNC, p_LAC)  c_MobileIdTMSI_Def '10100001'B |

#### **PDU Constraint Declaration**

**Constraint Name** : c\_LocUpdAcpTMSI\_E\_PLMN ( p\_MCC: HEXSTRING; p\_MNC: HEXSTRING; p\_LAC:

OCTETSTRING; p\_ePLMN : PLMN\_List )

Group

**PDU Type** : LOCATIONUPDATINGACCEPT

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Name              | Field Value                        | Field Encoding | Comments |
|-------------------------|------------------------------------|----------------|----------|
| skipIndicator           | '0000'B                            |                |          |
| mMProtocolDiscriminator | '0101'B                            |                |          |
| msgType                 | '00000010'B                        |                |          |
| locAreald               | c_LocAreald_v(p_MCC, p_MNC, p_LAC) |                |          |
| mobileId                | c_MobileIdTMSI_Def                 |                |          |
| followOnProceed         | '10100001'B                        |                |          |
| cTSPerm                 | '10100010'B                        |                |          |
| equivalentPLMN          | p_ePLMN                            |                |          |
| emergNumList            | _                                  |                |          |

Constraint Name : c\_OpenUE\_TestLoop

Group :

PDU Type : OPENUETESTLOOP

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000010'B |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

Constraint Name : c\_OpenUE\_TestLoopCmpl

Group :

PDU Type : OPENUETESTLOOPCOMPLETE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value | Field Encoding | Comments |
|-------------------------|-------------|----------------|----------|
| skipIndicator           | '0000'B     |                |          |
| tCProtocolDiscriminator | '1111'B     |                |          |
| msgType                 | '01000011'B |                |          |

Constraint Name : c\_PagRsp ( p\_KeySeq: KeySeq; p\_MobileId: MS\_Identity\_lv)

Group :

PDU Type : PAGINGRESPONSE

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name              | Field Value                | Field Encoding | Comments |
|-------------------------|----------------------------|----------------|----------|
| skipIndicator           | '0000'B                    |                |          |
| rRProtocolDiscriminator | '0110'B                    |                |          |
| msgType                 | '??100111'B                |                |          |
| spare4                  | '0000'B                    |                |          |
| ciphKeySeqNum           | c_CiphKeySeqNum(p_KeyS eq) |                |          |
| mSClsmk2                | c_MS_Clsmk2_Any_lv         |                |          |
| mobileId                | p_MobileId                 |                |          |
| Detailed Comments :     |                            |                |          |

#### **PDU Constraint Declaration**

Constraint Name : c\_TMSI\_ReallocCmpl

Group :

PDU Type : TMSIREALLOCATIONCOMPLETE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name              | Field Value | Field Encoding | Comments                  |
|-------------------------|-------------|----------------|---------------------------|
| skipIndicator           | '0000'B     |                | Skip Indicator            |
| mMProtocolDiscriminator | '0101'B     |                | MM Protocol Discriminator |
| msgType                 | '??011011'B |                | Message Type              |
|                         |             |                |                           |

**Constraint Name** : cb\_LocUpdReqAny (p\_KeySeq:KeySeq)

Group

PDU Type : LOCATIONUPDATINGREQUEST

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Name              | Field Value                   | Field Encoding | Comments |
|-------------------------|-------------------------------|----------------|----------|
| skipIndicator           | '0000'B                       |                |          |
| mMProtocolDiscriminator | '0101'B                       |                |          |
| msgType                 | '??001000'B                   |                |          |
| ciphKeySeqNum           | c_CiphKeySeqNum(<br>p_KeySeq) |                |          |
| locUpdType              | c_LocUpdTypeAny               |                |          |
| locAreald               | c_LocArealdAny_v              |                |          |
| mSClsmk1                | c_MS_Clsmk1_Any               |                |          |
| mobileId                | c_MobileIdAny_lv              |                |          |
| mSClsmk2                | c_MS_Clsmk2_Any<br>IF_PRESENT |                |          |

### **PDU Constraint Declaration**

**Constraint Name** : cbr\_Deact\_PDP\_ContextReq\_MO(p\_SM\_Cause: SM\_Cause\_v)

Group

**PDU Type** : DEACTIVATEPDPCONTEXTREQUEST

**Derivation Path Encoding Rule Name: Encoding Variation**:

Comments : Deactivate PDP Context Request

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| Field Name               | Field Value                     | Field Encoding | Comments |
|--------------------------|---------------------------------|----------------|----------|
| ti                       | cr_TI_Any                       |                |          |
| sM_ProtocolDiscriminator | tsc_SMPD                        |                |          |
| msgType                  | '01000110'B                     |                |          |
| sM_Cause                 | p_SM_Cause                      |                |          |
| tearDwnInd               | cr_TearDwnInd_tv<br>IF_PRESENT  |                |          |
| protocolConfOpts         | cr_ProtoCfgOptAny<br>IF_PRESENT |                |          |
| Detailed Comments :      |                                 |                |          |

**Constraint Name** 

: cbr\_RA\_UpdReqAny (p\_UpdateType : UpdateType\_v; p\_RAI : RAI\_v; p\_KeySeq : KeySeq)

Group

: ROUTINGAREAUPDATEREQUEST PDU Type

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Name               | Field Value                           | Field Encoding | Comments |
|--------------------------|---------------------------------------|----------------|----------|
| skipIndicator            | '0000'B                               |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD                            |                |          |
| msgType                  | '00001000'B                           |                |          |
| gprsCiphKeySeqNo         | c_CiphKeySeqNum(p_KeyS eq)            |                |          |
| updateType               | p_UpdateType                          |                |          |
| oldRAI                   | p_RAI                                 |                |          |
| msRadioAccessCap         | c_MS_RadioAccessCapAny<br>_lv         |                |          |
| oldPTMSI_Signature       | c_PTMSI_SignatureAny<br>IF_PRESENT    |                |          |
| readyTimer               | cr_GPRS_TimerAny<br>IF_PRESENT        |                |          |
| drxParameter             | cr_DRXparamter_tv_Any<br>IF_PRESENT   |                |          |
| tmsiStatus               | c_TMSI_StatusAny<br>IF_PRESENT        |                |          |
| ptmsi                    | c_MobileIdPTMSI_Any<br>IF_PRESENT     |                |          |
| msnetworkcap             | cr_MS_NetworkCap_tlv_An y IF_PRESENT  |                |          |
| pDP_ContextStatus        | cr_PDP_ContextStatusAny IF_PRESENT    |                |          |
| pS_LCS_Capability        | cr_PS_LCS_CapabilityAny<br>IF_PRESENT |                |          |

Constraint Name : cr\_ActPDP\_ContextReqMO\_Any

Group :

PDU Type : ACTIVATEPDPCONTEXTREQUESTul

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : Activate PDP Context Request

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| Field Name               | Field Value                      | Field Encoding | Comments   |
|--------------------------|----------------------------------|----------------|--|
| ti                       | cr_TI_Any                        |                |  |
| sM_ProtocolDiscriminator | tsc_SMPD                         |                |  |
| msgType                  | '01000001'B                      |                |  |
| requestedNSAPI           | cr_NSAPI_v                       |                |  |
| requestedLLC_SAPI        | cr_LLC_SAPI_v                    |                | This has to be set to Not Assigned by UE in UMTS domain.               |
| requestedQoS             | cr_QualityOfService_lv_Any       |                |  |
| pDP_Address              | cr_StaticPDP_AddressAny          |                |  |
| accessPtName             | cr_AccessPtNameAny<br>IF_PRESENT |                | The GGSN logical name or the external packet data network logical name |
| protocolConfOpts         | cr_ProtoCfgOptAny<br>IF_PRESENT  |                |  |

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Constraint Name : cr\_AttachComplete

Group :

PDU Type : ATTACHCOMPLETE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name               | Field Value | Field Encoding | Comments |
|--------------------------|-------------|----------------|----------|
| skipIndicator            | '0000'B     |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD  |                |          |
| msgType                  | '00000011'B |                |          |
|                          |             |                |          |

 $\textbf{Constraint Name} \qquad \textbf{:} \ \ \text{cr\_AttachReq } (p\_AttachType : AttachType; p\_MobId : MS\_Identity\_lv; p\_RAI : RAI\_v; \\$ 

p\_KeySeq : KeySeq )

Group :

PDU Type : ATTACHREQUEST

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name               | Field Value                           | Field Encoding | Comments |
|--------------------------|---------------------------------------|----------------|----------|
| skipIndicator            | '0000'B                               |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD                            |                |          |
| msgType                  | '0000001'B                            |                |          |
| msNetworkCap             | cr_MS_NetworkCapAss_lv                |                |          |
| gprsCiphKeySeqNo         | c_CiphKeySeqNum(p_KeyS<br>eq)         |                |          |
| attachType               | p_AttachType                          |                |          |
| drxParameter             | c_DRX_ParamterAny                     |                |          |
| ptmsiORimsi              | p_MobId                               |                |          |
| oldRAI                   | p_RAI                                 |                |          |
| msRadioAccessCap         | c_MS_RadioAccessCapAny<br>_lv         |                |          |
| oldPTMSI_Signature       | c_PTMSI_SignatureAny<br>IF_PRESENT    |                |          |
| readyTimer               | c_GPRS_TimerAny<br>IF_PRESENT         |                |          |
| tmsiStatus               | c_TMSI_StatusAny<br>IF_PRESENT        |                |          |
| pS_LCS_Capability        | cr_PS_LCS_CapabilityAny<br>IF_PRESENT |                |          |

# **PDU Constraint Declaration**

Constraint Name : cr\_AuthAndCiphFailureAny

Group :

PDU Type : AUTHENTICATION\_AND\_CIPHERING\_FAILURE

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name               | Field Value                         | Field Encoding | Comments |
|--------------------------|-------------------------------------|----------------|----------|
| skipIndicator            | '0000'B                             |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD                          |                |          |
| msgType                  | '00011100'B                         |                |          |
| gmmCause                 | ?                                   |                |          |
| authFailurePar           | c_AuthFailParamGmmAny<br>IF_PRESENT |                |          |
| Detailed Comments :      | •                                   |                |          |

 $\textbf{Constraint Name} \qquad \textbf{:} \ \, \text{cr\_AuthAndCiphRsp(} \ p\_authRsp : AuthRsp\_tv; \ p\_authRspExt : AuthRspExt)$ 

Group :

PDU Type : AUTHENTICATIONANDCIPHERINGRESPONSE

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name               | Field Value  | Field Encoding | Comments  |
|--------------------------|--------------|----------------|---|
| skipIndicator            | '0000'B      |                |   |
| gMMProtocolDiscriminator | tsc_GMM_PD   |                |   |
| msgType                  | '00010011'B  |                |   |
| spare4                   | '0000'B      |                |   |
| acRefNo                  | ?            |                | Should be the one sent in the auth request                        |
| authRsp                  | p_authRsp    |                | Authentication RES  |
| imeisv                   | _            |                | No IMEISV requested   |
| authRspExt               | p_authRspExt |                | Authentication paramter<br>AUTN, a UMTS challenge is<br>requested |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

Constraint Name : cr\_DetachRequest\_MO

Group :

PDU Type : DETACHREQUESTMO

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : 3GPP 24.008 V3.6.0 clause 9.4.5.2 (Mobile originating detach, GMM message)

| Field Name               | Field Value                          | Field Encoding | Comments                   |
|--------------------------|--------------------------------------|----------------|----------------------------|
| skipIndicator            | '0000'B                              |                | Skip Indicator             |
| gMMProtocolDiscriminator | tsc_GMM_PD                           |                | GMM Protocol Discriminator |
| msgType                  | '00000101'B                          |                | Message Type               |
| spare4                   | '0000'B                              |                | М                          |
| detachType               | c_DetachTypeReAttNotRequ<br>iredGPRS |                | М                          |
| ptmsi                    | c_MobileIdPTMSI_Any<br>IF_PRESENT    |                | 0                          |
| ptmsiSignature           | c_PTMSI_Signature_tlv(?) IF_PRESENT  |                | 0                          |

**Constraint Name** : cr\_ServiceRequest (p\_sType : ServiceType\_v; p\_PTMSI : MS\_Identity\_lv; p\_KeySeq : KeySeq)

Group :

PDU Type : SERVICEREQUEST

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name               | Field Value                           | Field Encoding | Comments |
|--------------------------|---------------------------------------|----------------|----------|
| skipIndicator            | '0000'B                               |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD                            |                |          |
| msgType                  | '00001100'B                           |                |          |
| serviceType              | p_sType                               |                |          |
| ciphKeySeqNo             | c_CiphKeySeqNum(p_KeyS<br>eq)         |                |          |
| ptmsi                    | p_PTMSI                               |                |          |
| pDP_ContextStatus        | cr_PDP_ContextStatusAny<br>IF_PRESENT |                |          |

Constraint Name : cr\_SetupMO\_Any

Group :

PDU Type : SETUPul

Derivation Path : Encoding Rule Name : Encoding Variation :

 $\begin{tabular}{lll} \textbf{Comments} & : CC \ SETUP & n <- \ ue \end{tabular}$ 

| Field Name               | Field Value                         | Field Encoding | Comments |
|--------------------------|-------------------------------------|----------------|----------|
| ti                       | cr_TI_MO                            |                |          |
| cC_ProtocolDiscriminator | '0011'B                             |                |          |
| msgType                  | '??000101'B                         |                |          |
| repeatInd                | c_RepeatIndAny<br>IF_PRESENT        |                |          |
| bcap1                    | cr_BcapAnyMO                        |                |          |
| bcap2                    | cr_BcapAnyMO<br>IF_PRESENT          |                |          |
| facility                 | cr_Facility_Any<br>IF_PRESENT       |                |          |
| cgps                     | cr_CGPS_Any<br>IF_PRESENT           |                |          |
| cdpn                     | cr_CDPN_Any                         |                |          |
| cdps                     | cr_CDPS_Any<br>IF_PRESENT           |                |          |
| llcRepeatInd             | c_RepeatIndAny<br>IF_PRESENT        |                |          |
| Ilc1                     | cr_LLC_Any IF_PRESENT               |                |          |
| IIc2                     | cr_LLC_Any IF_PRESENT               |                |          |
| hlcRepeatInd             | c_RepeatIndAny<br>IF_PRESENT        |                |          |
| hlc1                     | cr_HLC_Any IF_PRESENT               |                |          |
| hlc2                     | cr_HLC_Any IF_PRESENT               |                |          |
| userUser                 | cr_UserUserAny<br>IF_PRESENT        |                |          |
| sS_VersionInd            | cr_SS_VersionIndAny<br>IF_PRESENT   |                |          |
| cLIR_Suppression         | '10100001'B IF_PRESENT              |                |          |
| cLIR_Invocation          | '10100010'B IF_PRESENT              |                |          |
| cC_Capabilities          | cr_CC_CapabilitiesAny<br>IF_PRESENT |                |          |
| facilityCCBS_AdvRecall   | cr_FacilityAdvRecall<br>IF_PRESENT  |                |          |
| facilityCCBS_RecallAlign | cr_FacilityAdvRecall<br>IF_PRESENT  |                |          |
| streamld                 | cr_StreamIdAny<br>IF_PRESENT        |                |          |
| supportedCodecs          | cr_CodecListAny<br>IF_PRESENT       |                |          |
| Detailed Comments :      |                                     |                |          |

**Constraint Name** : cr\_StatusAny

Group

**PDU Type** : STATUS\_PDU

**Derivation Path Encoding Rule Name: Encoding Variation**:

: This constraint is used to receive an AM STATUS PDU containing the given SUFI list. Any padding included is ignored. Comments

| Field Name          | Field Value        | Field Encoding | Comments |
|---------------------|--------------------|----------------|----------|
| dC_Field            | tsc_DC_ControlPDU  |                |          |
| type                | tsc_PDU_TypeStatus |                |          |
| superFieldsTx       | OMIT               |                |          |
| superFieldsAndPadRx | ?                  |                |          |
| paddingTx           | OMIT               |                |          |

: cs\_AttachAcc ( p\_attachRes : AttachResult; p\_RAI : RAI\_v; p\_PTMSIsig : PTMSI\_Signature; p\_PTMSI : GMM\_MS\_IdentityPTMSI; p\_TMSI : GMM\_MS\_Identity ) **Constraint Name** 

Group

PDU Type : ATTACHACCEPT

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Name               | Field Value                      | Field Encoding | Comments                                   |
|--------------------------|----------------------------------|----------------|--|
| skipIndicator            | '0000'B                          |                |  |
| gMMProtocolDiscriminator | tsc_GMM_PD                       |                |  |
| msgType                  | '00000010'B                      |                |  |
| forceToStandby           | c_ForceToStandby('000'B)         |                | Force to standby not indicated             |
| attachResult             | p_attachRes                      |                |  |
| periodicRAupdateTimer    | c_GPRS_Timer_v('111'B, '00000'B) |                | Timer deactivated                          |
| radioPrioTOM8            | c_RadioPriority2('000'B)         |                | Lowest                                     |
| radioPrioSMS             | c_RadioPriority('100'B)          |                | Lowest                                     |
| rai                      | p_RAI                            |                |  |
| ptmsiSignature           | p_PTMSIsig                       |                |  |
| negReadyTimer            | -                                |                |  |
| allocatedPTMSI           | p_PTMSI                          |                |  |
| msIdentity               | p_TMSI                           |                | Only required in PS/CS combined procedures |
| gmmCause                 | -                                |                |  |
| t3302Value               | -                                |                |  |
| cellNotification         | -                                |                |  |
| equivalentPLMN           | -                                |                |  |
| ntwFeatureSupport        | -                                |                |  |
| emergNumList             | _                                |                |  |

: cs\_AttachAccE\_PLMN ( p\_attachRes : AttachResult; p\_RAI : RAI\_v; p\_PTMSIsig : PTMSI\_Signature; p\_PTMSI : GMM\_MS\_IdentityPTMSI; p\_TMSI : GMM\_MS\_Identity; p\_ePLMN : PLMN\_List ) **Constraint Name** 

Group

**PDU Type** : ATTACHACCEPT

**Derivation Path Encoding Rule Name: Encoding Variation**: Comments

| Field Name               | Field Value                      | Field Encoding | Comments                                   |
|--------------------------|----------------------------------|----------------|--|
| skipIndicator            | '0000'B                          |                |  |
| gMMProtocolDiscriminator | tsc_GMM_PD                       |                |  |
| msgType                  | '00000010'B                      |                |  |
| forceToStandby           | c_ForceToStandby('000'B)         |                | Force to standby not indicated             |
| attachResult             | p_attachRes                      |                |  |
| periodicRAupdateTimer    | c_GPRS_Timer_v('111'B, '00000'B) |                | Timer deactivated                          |
| radioPrioTOM8            | c_RadioPriority2('000'B)         |                | Lowest                                     |
| radioPrioSMS             | c_RadioPriority('100'B)          |                | Lowest                                     |
| rai                      | p_RAI                            |                |  |
| ptmsiSignature           | p_PTMSIsig                       |                |  |
| negReadyTimer            | -                                |                |  |
| allocatedPTMSI           | p_PTMSI                          |                |  |
| msIdentity               | p_TMSI                           |                | Only required in PS/CS combined procedures |
| gmmCause                 | -                                |                |  |
| t3302Value               | -                                |                |  |
| cellNotification         | -                                |                |  |
| equivalentPLMN           | p_ePLMN                          |                |  |
| ntwFeatureSupport        | -                                |                |  |
| emergNumList             | -                                |                |  |
| Detailed Comments :      |                                  |                |  |

Constraint Name : cs\_AttachRej( p\_cause : RejCau )

Group :

PDU Type : ATTACHREJECT

Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

| Field Name               | Field Value | Field Encoding | Comments |
|--------------------------|-------------|----------------|----------|
| skipIndicator            | '0000'B     |                |          |
| gMMProtocolDiscriminator | tsc_GMM_PD  |                |          |
| msgType                  | '00000100'B |                |          |
| gmmCause                 | p_cause     |                |          |
| t3302Value               | -           |                |          |

**Detailed Comments:** 

#### **PDU Constraint Declaration**

**Constraint Name** : cs\_AuthAndCiphReq( p\_rand : AuthenticationParamterRAND; p\_ckNo : CiphKeySeqNum\_tv;

p\_autn : GMM\_AUTN)

Group

PDU Type : AUTHENTICATIONANDCIPHERINGREQUEST

Derivation Path : Encoding Rule Name : Encoding Variation : Comments :

| Field Name               | Field Value                       | Field Encoding | Comments   |
|--------------------------|-----------------------------------|----------------|--|
| skipIndicator            | '0000'B                           |                |  |
| gMMProtocolDiscriminator | tsc_GMM_PD                        |                |  |
| msgType                  | '00010010'B                       |                |  |
| imeisvReq                | cb_IMEISV_Request('000'B )        |                | IMEISV not requested   |
| ciphAlgorithm            | c_CiphAlgorithm(px_Cipher<br>Alg) |                | GPRS encryption algorithm GEA/1                                    |
| acRefNo                  | c_AC_RefNum3                      |                | Use any reference value  |
| forceToStandby           | c_ForceToStandby('000'B)          |                | Force to standby not indicated                                     |
| authRand                 | p_rand                            |                | Authentication paramter RAND                                       |
| gprsCiphKeySeqNo         | p_ckNo                            |                | GPRS ciphering key sequence number                                 |
| aUTN                     | p_autn                            |                | Authentication paramter<br>AUTN, an UMTS challenge is<br>requested |

```
ASN.1 PDU Constraint Declaration
Constraint Name
                     : cbr_108_RB_SetUpCmpl
                        p_RRC_Ti: RRC_TransactionIdentifier;
                        p_Count_C_ActivationTime : ActivationTime;
                        p\_RB\_ActivationTimeInfoList: RB\_ActivationTimeInfoList
Group
PDU Type
                     : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                     : Defined in TS 34.108 clause 9.
                       p_Count_C_ActivationTime : The presence of this IE depends on the following 2 factors: (a)
                       There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the
                       RB establishment procedure. Else, this IE is absent
                       p_RB_ActivationTimeInfoList: If ciphering is not activated in RADIO BEARER SETUP message,
                       this IE must be absent. Else, SS checks this IE for the presence of activation times of all ciphered
                       uplink RLC-UM and RLC-AM RBs
                                                   Constraint Value
 integrityCheckInfo *,
 message radioBearerSetupComplete : {
  rrc_TransactionIdentifier p_RRC_Ti,
  ul_IntegProtActivationInfo *,
  ul_TimingAdvance *,
  start_Value ?,
  count_C_ActivationTime p_Count_C_ActivationTime,
  rb_UL_CiphActivationTimeInfo p_RB_ActivationTimeInfoList,
  ul_CounterSynchronisationInfo *,
```

laterNonCriticalExtensions \*

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cbr_108_RRC_ConnRelCmpl ( p_RRC_Ti: RRC_TransactionIdentifier)
Group
PDU Type
                    : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in TS 34.108 clause 9.
                                                 Constraint Value
{ integrityCheckInfo *,
 message rrcConnectionReleaseComplete : {
  rrc_TransactionIdentifier p_RRC_Ti,
  errorIndication *,
  laterNonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cbr_108_RRC_ConnReq (p_EstCause: EstablishmentCause)
Group
PDU Type
                    : UL_CCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation
Comments
                    : Defined in TS 34.108 clause 9.
                                                Constraint Value
{ integrityCheckInfo OMIT,
 message rrcConnectionRequest:
  initialUE_Identity (imsi:?, tmsi_and_LAI:?, p_TMSI_and_RAI:?, imei:?),
  establishmentCause p_EstCause,
  protocolErrorIndicator noError,
  measuredResultsOnRACH *,
  v3d0NonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cbr_108_RRC_SecModeCmpl
                      (p_RRC_Ti: RRC_TransactionIdentifier;
                       p_RB_ActivationTimeInfoList : RB_ActivationTimeInfoList
Group
PDU Type
                    : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in TS 34.108 clause 9.
                                                 Constraint Value
{ integrityCheckInfo *,
 message securityModeComplete : {
  rrc_TransactionIdentifier p_RRC_Ti,
  ul_IntegProtActivationInfo *
  rb_UL_CiphActivationTimeInfo p_RB_ActivationTimeInfoList,
  laterNonCriticalExtensions *
Detailed Comments:
```

# **ASN.1 PDU Constraint Declaration Constraint Name** : cbs\_108\_RRC\_ConnSetupDCH p\_InitUEId: InitialUE\_Identity; RRC\_TransactionIdentifier; p\_RRC\_Ti: p\_PrmbScrmCode: PrimaryScramblingCode; p\_U\_RNTI\_New: U\_RNTI; p\_UL\_ScramblingCode: UL\_ScramblingCode Group **PDU Type** : DL\_CCCH\_Message **Derivation Path Encoding Rule Name: Encoding Variation** Comments : Defined in TS 34.108 clause 9. **Constraint Value** integrityCheckInfo OMIT, message rrcConnectionSetup: r3: rrcConnectionSetup\_r3 -- RRCConnectionSetup\_r3\_IEs initialUE\_Identity p\_InitUEId, rrc\_TransactionIdentifier p\_RRC\_Ti, activationTime OMIT new\_U\_RNTI p\_U\_RNTI\_New, new\_c\_RNTI OMIT, rrc\_StateIndicator cell\_DCH, utran\_DRX\_CycleLengthCoeff 9, capabilityUpdateRequirement { ue\_RadioCapabilityFDDUpdateRequirement TRUE, ue RadioCapabilityTDDUpdateRequirement FALSE, systemSpecificCapUpdateReqList {gsm} srb InformationSetupList { c\_SRB\_InfoSetupUM\_DCH (tsc\_UL\_DCCH1, tsc\_UL\_MAC\_Prt1, tsc\_UL\_MAC\_Prt1, tsc\_DL\_DCCH1), c\_SRB\_InfoSetupAM\_DCH (tsc\_UL\_DCCH2, tsc\_UL\_MAC\_Prt2, tsc\_UL\_MAC\_Prt2, tsc\_DL\_DCCH2), c\_SRB\_InfoSetupAM\_DCH (tsc\_UL\_DCCH3, tsc\_UL\_MAC\_Prt3, tsc\_UL\_MAC\_Prt3, tsc\_DL\_DCCH3), c\_SRB\_InfoSetupAM\_DCH (tsc\_UL\_DCCH4, tsc\_UL\_MAC\_Prt4, tsc\_UL\_MAC\_Prt4, tsc\_DL\_DCCH4) ul\_CommonTransChInfo c\_UL\_CommTrChInfoDCCH\_13\_6k, ul\_AddReconfTransChInfoList c\_UL\_AddReconfTransChInfoListDCCH\_13\_6k, dl\_CommonTransChInfo c\_DL\_CommonTransChInfoSameAsUL dl\_AddReconfTransChInfoList c\_DL\_AddReconfTransChInfoListDCCH\_SRB, frequencyInfo OMIT. maxAllowedUL\_TX\_Power OMIT, $ul\_Channel Requirement \ ul\_DPCH\_Info: c\_UL\_DPCH\_13\_6\_Stand Alone \ (\ p\_UL\_Scrambling Code\ ), \\$ dl\_CommonInformation cd\_DL\_CommonInformationDCH\_DPCH\_Offset ( tsc\_DL\_DPCH1\_SFP\_SRB ). dl\_InformationPerRL\_List c\_DL\_InfoPerRL\_DPCH\_Offset (p\_PrmbScrmCode, tsc\_DL\_DPCH1\_2ndScrC, tsc\_DL\_DPCH1\_ChC\_SRB) laterNonCriticalExtensions OMIT

#### **Detailed Comments:**

}

# **ASN.1 PDU Constraint Declaration Constraint Name** : cbs\_108\_RRC\_ConnSetupFACH p\_InitUEId: InitialUE\_Identity; p\_RRC\_Ti: RRC\_TransactionIdentifier; p\_PrmbScrmCode: PrimaryScramblingCode; p\_U\_RNTI\_New : U\_RNTI; p\_CRNTI\_New: C\_RNTI; p\_UL\_ScramblingCode : UL\_ScramblingCode Group **PDU Type** : DL\_CCCH\_Message **Derivation Path Encoding Rule Name: Encoding Variation** Comments : Defined in TS 34.123-1 annex A **Constraint Value** integrityCheckInfo OMIT, message rrcConnectionSetup: rrcConnectionSetup\_r3 -- RRCConnectionSetup\_r3\_IEs initialUE\_Identity p\_InitUEId, rrc\_TransactionIdentifier p\_RRC\_Ti, activationTime OMIT, new\_U\_RNTI p\_U\_RNTI\_New, new\_c\_RNTI p\_CRNTI\_New, rrc\_StateIndicator cell\_FACH utran\_DRX\_CycleLengthCoeff 9, capabilityUpdateRequirement { ue\_RadioCapabilityFDDUpdateRequirement TRUE, ue\_RadioCapabilityTDDUpdateRequirement FALSE, systemSpecificCapUpdateReqList {gsm} srb\_InformationSetupList { c\_SRB\_InfoSetupUM\_FACH (tsc\_RB1, tsc\_UL\_DCCH1, tsc\_UL\_MAC\_Prt1, tsc\_UL\_MAC\_Prt1, tsc\_DL\_DCCH1), c\_SRB\_InfoSetupAM\_FACH (tsc\_RB2,tsc\_UL\_DCCH2, tsc\_UL\_MAC\_Prt2, tsc\_UL\_MAC\_Prt2, tsc\_DL\_DCCH2), c\_SRB\_InfoSetupAM\_FACH (tsc\_RB3, tsc\_UL\_DCCH3, tsc\_UL\_MAC\_Prt3, tsc\_UL\_MAC\_Prt3, tsc\_DL\_DCCH3), c\_SRB\_InfoSetupAM\_FACH (tsc\_RB4, tsc\_UL\_DCCH4, tsc\_UL\_MAC\_Prt4, tsc\_UL\_MAC\_Prt4, tsc\_DL\_DCCH4) ul\_CommonTransChInfo c\_UL\_CommTrChInfoDCCH\_13\_6k, ul\_AddReconfTransChInfoList c\_UL\_AddReconfTransChInfoListDCCH\_3\_4k, dl CommonTransChInfo c DL CommonTransChInfoSameAsUL. $dl\_AddReconfTransChInfoList\,c\_DL\_AddReconfTransChInfoListDCCH\_SRB,$ frequencyInfo OMIT, maxAllowedUL\_TX\_Power OMIT, ul\_ChannelRequirement OMIT, dl CommonInformation OMIT, dl\_InformationPerRL\_List OMIT laterNonCriticalExtensions OMIT

#### **Detailed Comments:**

}

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cr_108_RB_ReconfCmpl
                       p_RRC_Ti : RRC_TransactionIdentifier;
                       p_Count_C_ActivationTime : ActivationTime
Group
PDU Type
                    : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in 34.123-1 annex A
                                                 Constraint Value
 integrityCheckInfo *,
 message radioBearerReconfigurationComplete : { --RadioBearerReconfigurationComplete
  rrc_TransactionIdentifier p_RRC_Ti,
  ul_IntegProtActivationInfo *,
  ul_TimingAdvance *,
  count_C_ActivationTime p_Count_C_ActivationTime,
  rb_UL_CiphActivationTimeInfo OMIT,
  laterNonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cr 108 RB RelCmpl (
                       p_RRC_Ti: RRC_TransactionIdentifier;
                       p_Count_C_ActivationTime : ActivationTime;
                       p_RB_ActivationTimeInfoList : RB_ActivationTimeInfoList
Group
PDU Type
                     : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation
Comments
                                                  Constraint Value
 integrityCheckInfo *,
 message radioBearerReleaseComplete : { --RadioBearerReleaseComplete,
  rrc_TransactionIdentifier p_RRC_Ti,
  ul_IntegProtActivationInfo *,
  ul_TimingAdvance *,
  count\_C\_ActivationTime\ p\_Count\_C\_ActivationTime\ ,
  rb_UL_CiphActivationTimeInfo p_RB_ActivationTimeInfoList,
  laterNonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cr\_108\_RRC\_ConnSetupCmpl \ ( \ p\_RRC\_Ti: RRC\_TransactionIdentifier; p\_STARTList: \\
                      STARTList)
Group
PDU Type
                    : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in TS 34.108 clause 9.
                                                 Constraint Value
{ integrityCheckInfo OMIT,
 message rrcConnectionSetupComplete : {
  rrc_TransactionIdentifier p_RRC_Ti,
  startList p_STARTList,
  ue_RadioAccessCapability *,
  ue_RATSpecificCapability *
  v370NonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cr_108_SecModeFail (p_RRC_Ti : RRC_TransactionIdentifier; p_FailureCauseWithProtErr :
                     FailureCauseWithProtErr)
Group
PDU Type
                    : UL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                                                Constraint Value
{ integrityCheckInfo * ,
 message securityModeFailure :
  rrc_TransactionIdentifier p_RRC_Ti,
  failureCause p_FailureCauseWithProtErr,
  laterNonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration

Constraint Name : cr_RRC_MeasRep
Group :
PDU Type : UL_DCCH_Message
Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

Constraint Value

{ integrityCheckInfo *, message measurementReport : ? }

Detailed Comments :
```

# **ASN.1 PDU Constraint Declaration Constraint Name** : cr\_RRC\_RB\_SetUpCmplNoStartVal p\_RRC\_Ti: RRC\_TransactionIdentifier; p\_Count\_C\_ActivationTime : ActivationTime; $p\_RB\_ActivationTimeInfoList: RB\_ActivationTimeInfoList$ Group **PDU Type** : UL\_DCCH\_Message **Derivation Path Encoding Rule Name: Encoding Variation**: Comments : START value is omitted p\_Count\_C\_ActivationTime: The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL\_DCH state after the RB establishment procedure. Else, this IE is absent p\_RB\_ActivationTimeInfoList: If ciphering is not activated in RADIO BEARER SETUP message, this IE must be absent. Else, SS checks this IE for the presence of activation times of all ciphered uplink RLC-UM and RLC-AM RBs **Constraint Value** integrityCheckInfo \*, message radioBearerSetupComplete : { rrc\_TransactionIdentifier p\_RRC\_Ti, ul\_IntegProtActivationInfo \*, ul\_TimingAdvance \*, start\_Value OMIT, count\_C\_ActivationTime p\_Count\_C\_ActivationTime, rb\_UL\_CiphActivationTimeInfo p\_RB\_ActivationTimeInfoList, laterNonCriticalExtensions \*

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cr_RRC_RrcConnReqAny
Group
PDU Type
                    : UL_CCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                                                  Constraint Value
{ integrityCheckInfo OMIT,
 message rrcConnectionRequest :
  initialUE_Identity?,
  establishmentCause ?,
  protocolErrorIndicator noError,
  measuredResultsOnRACH *, v3d0NonCriticalExtensions *
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration

Constraint Name : cr_RRC_RrcStatus
Group :
PDU Type : UL_DCCH_Message
Derivation Path :
Encoding Rule Name :
Encoding Variation :
Comments :

Constraint Value

{ integrityCheckInfo *, message rrcStatus : ? }
Detailed Comments :
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cs_108_RRC_ConnRelCCCH (
                     p_U_rnti: U_RNTI;
                     p_RRC_Ti: RRC_TransactionIdentifier)
Group
PDU Type
                    : DL_CCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in TS 34.108 clause 9.
                                                Constraint Value
{ integrityCheckInfo OMIT,
 message rrcConnectionRelease : r3 :
  rrcConnectionRelease_CCCH_r3
   u_RNTI p_U_rnti,
   rrcConnectionRelease
    rrc_TransactionIdentifier p_RRC_Ti,
    n_308 OMIT,
    releaseCause normalEvent
  laterNonCriticalExtensions OMIT
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cs_108_RRC_ConnRelDCCH (
                        p_IntegrityCheckInfo: IntegrityCheckInfo;
                        p\_RRC\_Ti: RRC\_TransactionIdentifier;
                        p_N308: INTEGER)
Group
PDU Type
                    : DL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : Defined in TS 34.108 clause 9.
                                                 Constraint Value
{ integrityCheckInfo p_IntegrityCheckInfo,
 message rrcConnectionRelease : r3 :
  rrcConnectionRelease_r3
   rrc_TransactionIdentifier p_RRC_Ti,
   n_308 p_N308,
   releaseCause normalEvent,
   rplmn_information OMIT
  laterNonCriticalExtensions OMIT
Detailed Comments:
```

: cs\_108\_RRC\_SecModeCmd ( p\_IntegrityCheckInfo : IntegrityCheckInfo; p\_SecModeCmd: SecurityModeCommand) **Constraint Name** 

Group

PDU Type : DL\_DCCH\_Message

**Derivation Path Encoding Rule Name: Encoding Variation**:

Comments : Defined in TS 34.108 clause 9.

# **Constraint Value**

 $\{\ integrity CheckInfo\ p\_Integrity CheckInfo,$ message securityModeCommand : p\_SecModeCmd

```
Constraint Name
                    : cs_RB_RelRLC
                      p_IntegrityCheckInfo: IntegrityCheckInfo;
                      p_RRC_TI: RRC_TransactionIdentifier;
                      p_ActivationTime : ActivationTime;
                      p Fregnfo: FrequencyInfo;
                      p_PrimaryScramblingCode: PrimaryScramblingCode;
                      p_UL_ScramblingCode; UL_ScramblingCode;
                      p RB InformationReleaseList: RB InformationReleaseList
Group
PDU Type
                    : DL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation
Comments
                    : Defined in TS 34.123-1 annex A condition A.1
```

#### Constraint Value

```
integrityCheckInfo p IntegrityCheckInfo,
 message radioBearerRelease: r3:{
  radioBearerRelease_r3 { --RadioBearerRelease_r3_IEs
   rrc_TransactionIdentifier p_RRC_TI,
   integrityProtectionModeInfo OMIT,
   cipheringModeInfo OMIT,
   activationTime p_ActivationTime,
   new_U_RNTI OMIT,
   new_C_RNTI OMIT,
   rrc_StateIndicator cell_DCH,
   utran_DRX_CycleLengthCoeff OMIT,
   cn_InformationInfo OMIT,
   ura_Identity OMIT,
   rab InformationReconfigList OMIT.
   rb_InformationReleaseList p_RB_InformationReleaseList,
   rb_InformationAffectedList OMIT,
   dl CounterSynchronisationInfo OMIT,
   ul_CommonTransChInfo c_UL_CommTrChInfoDCCH_13_6k,
   ul_deletedTransChInfoList c_UL_DeletedTransChInfo (tsc_UL_DCH1),
   ul_AddReconfTransChInfoList c_UL_AddReconfTransChInfoListDCCH_13_6k,
   modeSpecificTransChInfo fdd: { cpch_SetID OMIT,
    addReconfTransChDRAC_Info OMIT
   },
   dl_CommonTransChInfo c_DL_CommonTransChInfoSameAsUL,
   dl_DeletedTransChInfoList c_DL_DeletedTransChInfo_PS (tsc_DL_DCH1),
   dl_AddReconfTransChInfoList c_DL_AddReconfTransChInfo2ListDCCH,
   frequencyInfo p_Freqnfo,
   maxAllowedUL_TX_Power tsc_MaxAllowPwr,
   ul_ChannelRequirement ul_DPCH_Info: cb_UL_DPCH_Info(tsc_UL_DPDCH_SF_SRB, pl1,
p UL ScramblingCode),
   modeSpecificPhysChInfo fdd:
    dl_PDSCH_Information OMIT
   dl_CommonInformation c_DL_CommonInformationRB_StandAloneSRB (tsc_DL_DPCH1_SFP_SRB),
   dl_InformationPerRL_List c_DL_InformationPerRL ( p_PrimaryScramblingCode, tsc_DL_DPCH1_ChC_SRB,
tsc_DL_DPCH1_2ndScrC)
  v3a0NonCriticalExtensions {
   radioBearerRelease_v3a0ext { new_DSCH_RNTI OMIT },
   laterNonCriticalExtensions OMIT
  }
```

| ASN.1 PDU Constraint Declaration |  |  |  |  |
|----------------------------------|--|--|--|--|
| Constraint Value                 |  |  |  |  |
| }                                |  |  |  |  |
| Detailed Comments :              |  |  |  |  |

```
ASN.1 PDU Constraint Declaration

Constraint Name : cs_RRC_PagingType1_TMSI(p_PagCause: PagingCause; p_Tmsi:TMSI_GSM_MAP; p_Domain : CN_DomainIdentity)

Group : PDU Type : PCCH_Message
Derivation Path : Encoding Rule Name : Encoding Variation : Comments : 

Comments : 

Constraint Value

{
    message pagingType1: c_PagingType1_TMSI(p_PagCause, p_Tmsi, p_Domain )
}

Detailed Comments :
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                     : cs_RRC_RB_Reconfigure (
                         p_Integrityinfo: IntegrityCheckInfo;
                        p_RRC_Ti: RRC_TransactionIdentifier;
                        p_Integrityprotect: IntegrityProtectionModeInfo;
                         p_Activetime:
                                         ActivationTime;
                        p RRCStateInd:
                                               RRC_StateIndicator;
                                          SF512_AndPilot;
                        p_Sf:
                        p_FreqInfo:
                                         FrequencyInfo;
                        p PunLimit:
                                          PuncturingLimit;
                                          RAB_InformationReconfigList;
                         p_Rablist:
                         p Rbreconf:
                                         RB_InformationReconfigList;
                         p_Rbaffected:
                                         RB_InformationAffectedList;
                        p_UlCommTrChInfo: UL_CommonTransChInfo;
                        p_UIAddReconfTrChInfo: UL_AddReconfTransChInfoList;
                         p\_DICommTrChInfo:\ DL\_CommonTransChInfo;
                         p_DIAddReconfTrChInfo: DL_AddReconfTransChInfo2List;
                        p_DIInfoPerRI:
                                           DL_InformationPerRL_List;
                        p_SprdFct:
                                         SpreadingFactor;
                        p_UL_ScramblingCode : UL_ScramblingCode
Group
PDU Type
                     : DL_DCCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation
Comments
                                                  Constraint Value
 integrityCheckInfo p_Integrityinfo,
 message radioBearerReconfiguration: r3:{
  radioBearerReconfiguration_r3 {
   rrc TransactionIdentifier p_RRC_Ti,
   integrityProtectionModeInfo p_Integrityprotect,
   cipheringModeInfo OMIT,
   activationTime p Activetime,
   new_U_RNTI OMIT,
   new_C_RNTI OMIT,
   rrc_StateIndicator p_RRCStateInd,
   utran_DRX_CycleLengthCoeff OMIT,
   cn_InformationInfo OMIT,
   ura_Identity OMIT,
   rab_InformationReconfigList p_Rablist,
   rb_InformationReconfigList p_Rbreconf,
   rb_InformationAffectedList p_Rbaffected,
   ul_CommonTransChInfo p_UICommTrChInfo,
   ul_deletedTransChInfoList OMIT,
   ul_AddReconfTransChInfoList p_UIAddReconfTrChInfo,
   modeSpecificTransChInfo fdd:{
    cpch_SetID OMIT.
    addReconfTransChDRAC_Info OMIT
   dl_CommonTransChInfo p_DICommTrChInfo,
   dl_DeletedTransChInfoList OMIT,
   dl_AddReconfTransChInfoList p_DIAddReconfTrChInfo,
   frequencyInfo p_FreqInfo,
   maxAllowedUL_TX_Power tsc_MaxAllowPwr,
   ul_ChannelRequirement ul_DPCH_Info : cb_UL_DPCH_Info(p_SprdFct, p_PunLimit, p_UL_ScramblingCode ),
   modeSpecificPhysChInfo fdd:{
    dl_PDSCH_Information OMIT
   dl_CommonInformation c_DL_CommonInformationRB_SetUp(p_Sf),
```

```
ASN.1 PDU Constraint Declaration

Constraint Value

dl_InformationPerRL_List p_DlInfoPerRl
},
v3aoNonCriticalExtensions OMIT
}

Detailed Comments:
```

#### **ASN.1 PDU Constraint Declaration Constraint Name** : cs\_RRC\_RB\_SetUp ( p\_Integrityinfo: IntegrityCheckInfo; p\_RRC\_Ti : RRC\_TransactionIdentifier; p\_Activetime: ActivationTime; p\_RRCStateInd: RRC\_StateIndicator; p FregInfo: FrequencyInfo: RAB\_InformationSetupList; p\_Rablist: p\_UlCommTrChInfo: UL\_CommonTransChInfo; p UIAddReconfTrChInfo: UL AddReconfTransChInfoList; p\_DICommTrChInfo: DL\_CommonTransChInfo; p\_DIAddReconfTrChInfo: DL\_AddReconfTransChInfoList; p\_DlInfoPerRI: DL\_InformationPerRL\_List; p\_DL\_CommonInformation: DL\_CommonInformation; p\_UL\_DPCH\_Info: UL\_DPCH\_Info; p\_RB\_InformationAffectedList : RB\_InformationAffectedList Group **PDU Type** : DL\_DCCH\_Message **Derivation Path Encoding Rule Name: Encoding Variation** Comments **Constraint Value** integrityCheckInfo p\_Integrityinfo, message radioBearerSetup: r3: { radioBearerSetup\_r3 { rrc\_TransactionIdentifier p\_RRC\_Ti, integrityProtectionModeInfo OMIT, cipheringModeInfo OMIT, activationTime p\_Activetime, new\_U\_RNTI OMIT, new\_C\_RNTI OMIT, rrc\_StateIndicator p\_RRCStateInd, utran DRX CycleLengthCoeff OMIT, cn\_InformationInfo OMIT, srb\_InformationSetupList OMIT, rab\_InformationSetupList p\_Rablist, $rb\_Information Affected List\ p\_RB\_Information Affected List\ ,$ ul\_CommonTransChInfo p\_UICommTrChInfo, ul\_deletedTransChInfoList OMIT, $ul\_AddReconfTransChInfoList\ p\_UIAddReconfTrChInfo,$ modeSpecificTransChInfo fdd:{ cpch\_SetID OMIT, addReconfTransChDRAC\_Info OMIT dl\_CommonTransChInfo p\_DlCommTrChInfo, dl DeletedTransChInfoList OMIT. dl\_AddReconfTransChInfoList p\_DIAddReconfTrChInfo, frequencyInfo p\_FreqInfo, maxAllowedUL\_TX\_Power tsc\_MaxAllowPwr, ul\_ChannelRequirement ul\_DPCH\_Info : p\_UL\_DPCH\_Info, modeSpecificPhysChInfo fdd:{ dl\_PDSCH\_Information OMIT

Continued on next page

dl\_CommonInformation p\_DL\_CommonInformation,

radioBearerSetup\_v3a0ext { new\_DSCH\_RNTI OMIT },

dl\_InformationPerRL\_List p\_DlInfoPerRI

v3a0NonCriticalExtensions {

laterNonCriticalExtensions OMIT

```
ASN.1 PDU Constraint Declaration
                                           Constraint Value
}
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cs_SIB_MsgCmpl(p_SIBType : SIB_Type; p_SIBData: SIB_Data_fixed)
Group
PDU Type
                    : BCCH_BCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation:
Comments
                    : System information message contains complete SIB/SB/MIB. The actual value of sfn_Prime shall
                      be filled in by lower layer before sent on air.
                                                Constraint Value
 message {
  sfn_Prime 0,
  payload completeSIB: {
   sib_Type p_SIBType,
   sib_Data_fixed p_SIBData }
```

```
Detailed Comments:
```

```
ASN.1 PDU Constraint Declaration
Constraint Name
                    : cs_SIB_MsgCmplList1(p_SIBType : SIB_Type; p_SIBData: SIB_Data_variable)
Group
PDU Type
                    : BCCH_BCH_Message
Derivation Path
Encoding Rule Name:
Encoding Variation
Comments
                    : System information message contains complete SIB/SB/MIB. The actual value of sfn_Prime shall
                      be filled in by lower layer before sent on air.
                                                 Constraint Value
 message {
  sfn_Prime 0,
  payload completeSIB_List : {{
    sib_Type p_SIBType,
    sib_Data_variable p_SIBData }}
```

Constraint Name : cs\_SIB\_MsgCmplList2(p\_SIBType1 : SIB\_Type; p\_SIBData1:SIB\_Data\_variable; p\_SIBType2

:SIB\_Type; p\_SIBData2: SIB\_Data\_variable)

Group :

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : System information message contains two complete SIB's. The actual value of sfn\_Prime shall be

filled in by lower layer before sent on air.

#### **Constraint Value**

```
{
  message {
    sfn_Prime 0,
    payload completeSIB_List : {{
      sib_Type p_SIBType1,
      sib_Data_variable p_SIBData1 },
    {
      sib_Type p_SIBType2,
      sib_Data_variable p_SIBData2 }}
}
```

#### **Detailed Comments:**

#### **ASN.1 PDU Constraint Declaration**

Constraint Name : cs\_SIB\_MsgFirst(p\_SIBType : SIB\_Type; p\_SegCount: INTEGER; p\_SIBData: SIB\_Data\_fixed)

Group

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: The actual value of sfn\_Prime shall be filled in by lower layer before sent on air.

#### **Constraint Value**

```
{
    message {
        sfn_Prime 0, -- place holder
        payload firstSegment : {
        sib_Type p_SIBType,
        seg_Count p_SegCount,
        sib_Data_fixed p_SIBData }
    }
```

Constraint Name : cs\_SIB\_MsgLast(p\_SIBType : SIB\_Type; p\_SegIndex : INTEGER; p\_SIBData: SIB\_Data\_fixed)

Group

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

Comments : The actual value of sfn\_Prime shall be filled in by lower layer before sent on air. this message

contains last segment which is 222 bits long.

# **Constraint Value**

```
{
  message {
    sfn_Prime 0,
    payload lastSegment : {
    sib_Type p_SIBType,
    segmentIndex p_SegIndex,
    sib_Data_fixed p_SIBData }
  }
}
```

#### **Detailed Comments:**

#### **ASN.1 PDU Constraint Declaration**

Constraint Name : cs\_SIB\_MsgLastShort(p\_SIBType : SIB\_Type; p\_SegIndex : INTEGER; p\_SIBData:

SIB\_Data\_variable)

Group

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: The actual value of sfn\_Prime shall be filled in by lower layer before sent on air. this message

contains last segment which is short than 215 bits.

#### **Constraint Value**

```
fmessage {
    sfn_Prime 0,
    payload lastSegmentShort : {
    sib_Type p_SIBType,
    segmentIndex p_SegIndex,
    sib_Data_variable p_SIBData }
}
```

Constraint Name : cs\_SIB\_MsgNoSegment

Group :

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: System information message contains no SIB, sent on the frame which there is no any

SIB/SB/MIB scheduled on. The actual value of sfn\_Prime shall be filled in by lower layer before

sent on air.

#### **Constraint Value**

```
{
    message {
        sfn_Prime 0,
        payload noSegment : NULL
    }
```

**Detailed Comments:** 

#### **ASN.1 PDU Constraint Declaration**

Constraint Name : cs\_SIB\_MsgSubsequent(p\_SIBType : SIB\_Type; p\_SegIndex : INTEGER; p\_SIBData:

SIB\_Data\_fixed)

Group :

PDU Type : BCCH\_BCH\_Message

Derivation Path : Encoding Rule Name : Encoding Variation :

**Comments**: The actual value of sfn\_Prime shall be filled in by lower layer before sent on air.

#### **Constraint Value**

```
{
    message {
        sfn_Prime 0,
        payload subsequentSegment : {
        sib_Type p_SIBType,
        segmentIndex p_SegIndex,
        sib_Data_fixed p_SIBData }
    }
```

# IV Dynamic Part

Test Case Name : tc\_7\_2\_2\_2

Group : RLC/UnacknowledgedMode/Segmentation/

Purpose : To test that if the size of the largest PDU is <= 125 octets, 7 bit indicators are used, otherwise, 15 bit

indicators are used.

Configuration :

Default : RLC\_Default

**Comments** : References:TS 25.322 Clauses 9.2.2.8, 9.2.2.9

Selection Ref :

**Description**: Segmentation and reassembly / Selection of 7 or 15 bit "Length Indicators"

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )   |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop(<br>tsc_TestDataSize7Or15 * 8 )   |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 6  |       | +ts_TxUM_7_PRBS( c_Lls2_7BitLls(<br>tsc_TestDataSize7Or15, tsc_Ll7_Padding<br>), tsc_TestDataSize7Or15)      |                 |         | 1        |
| 7  |       | +ts_RxUM_7_PRBS( c_Lls2_7BitLls(<br>tsc_TestDataSize7Or15,<br>tsc_Ll7_Padding ) ,<br>tsc_TestDataSize7Or15 ) |                 |         | 2        |
| 8  |       | +po_OpenUE_TestLoop  |                 |         | 3        |
| 9  |       | +ts_RRC_RB_ReIRLC(<br>tsc_DefaultCellId)   |                 |         | 3        |
| 10 |       | +pr_RB_SetupUM15(<br>cbs_DefaultRLC_InfoUM)  |                 |         | 3        |
| 11 |       | +pr_CloseUE_TestLoop(<br>tsc_TestDataSize7Or15 * 8 )   |                 |         | 3        |
| 12 |       | +ts_TxUM_15_PRBS( c_Lls2_15BitLls( tsc_TestDataSize7Or15, tsc_Ll15_Padding), tsc_TestDataSize7Or15)          |                 |         | 4        |
| 13 |       | +ts_RxUM_15_PRBS(  |                 |         | 5        |
| 14 | TBP1  | (tcv_TestBody := FALSE)  |                 | (P)     |          |
| 15 |       | +po_GenericCleanupProce dures  |                 |         |          |

**Detailed Comments**: 1. All 10 octets of SDU 1. The first LI indicates the position of the last

octet of SDU 1. The second LI indicates that the rest of the PDU contains

padding.

(Step 2 in the expected sequence)

All 10 octets of looped back (and truncated) SDU 1. The first LI indicates the position of the last octet of SDU 1. The second LI indicates that the rest of the PDU contains padding. This PDU shall use 7 bit LIs.

(Step 3 in the expected sequence)

3 .Reconfigure the transport channel such that 15 bit length indicators are required. Note that this is acheived by opening the test loop, releasing the

# Detailed Comments : ...

radio bearer, establishing a new radio bearer, and re-closing the test loop. (Steps 4,5 in the expected sequence)

- 4. All 10 octets of SDU 2. The first LI indicates the position of the last octet of SDU 2. The second LI indicates that the rest of the PDU contains padding.
  (Chan 6 in the synapted assurance)
  - (Step 6 in the expected sequence)
- 5. All 10 octets of looped back (and truncated) SDU 2. The first LI indicates the position of the last octet of SDU 2. The second LI indicates that the rest of the PDU contains padding. This PDU shall use 15 bit LIs. (Step 7 in the expected sequence)

Test Case Name : tc\_7\_2\_2\_3

Group : RLC/UnacknowledgedMode/Segmentation/LI7Bit/

Purpose : 1. To test that the UE correctly segments a large SDU, includes a "Length Indicator" indicating

padding in the RLC PDU carrying the last SDU segment, and adds padding at the end.

2. To test that the UE correctly deals with a 7-bit padding "Length Indicator" when present in a

received PDU.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clauses 9.2.2.8 and 11.2.2.1.

Selection Ref :

**Description**: Segmentation and reassembly / 7-bit "Length Indicators" / Padding

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )                          |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize + 1 ) * 8 )               |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )  |                 |         |          |
| 6  |       | +ts_TxUM_7_PRBS( c_LIsEmpty, tcv_PayloadSize )                    |                 |         | 1        |
| 7  |       | +ts_TxUM_7_PRBS( c_Lls2_7BitLls( 1, tsc_Ll7_Padding ) , 1 )       |                 |         | 2        |
| 8  |       | +ts_RxUM_7_PRBS( c_LlsEmpty, tcv_PayloadSize )                    |                 |         | 3        |
| 9  |       | +ts_RxUM_7_PRBS(<br>c_Lls2_7BitLls( 1, tsc_Ll7_Padding<br>) , 1 ) |                 |         | 4        |
| 10 | TBP1  | (tcv_TestBody := FALSE )  |                 | (P)     |          |
| 11 |       | +po_GenericCleanupProcedures                                      |                 |         |          |

Detailed Comments: 1. The first UM\_7\_PayloadSize octets of SDU 1

(Step 2 in the expected sequence)

2. The final octet of SDU 1. First LI = 1, second LI = 1111111 (Step 3 in the expected sequence)

- 3. The first UM\_7\_PayloadSize octets of the looped back SDU 1. No LIs present (Step 4 in the expected sequence)
- 4. The final octet of the looped back SDU 1. First LI = 1, second LI = 1111111 (Step 5 in the expected sequence)

Test Case Name : tc\_7\_2\_2\_4

Group : RLC/UnacknowledgedMode/Segmentation/LI7Bit/

Purpose : 1. To test that where a SDU exactly fills a PDU, a "Length Indicator" of all 0's is placed by the

transmitter as the first "Length Indicator" in the next PDU.

2. To test that where a SDU exactly fills a PDU, the receiver accepts a "Length Indicator" of all 0's,

placed as the first "Length Indicator" in the next PDU.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 clause 9.2.2.8 and 11.2.2.1

Selection Ref :

**Description**: Segmentation and Reassembly / 7-bit "Length Indicators" / LI = 0

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )   |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( tcv_PayloadSize * 8 )  |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 6  |       | +ts_TxUM_7_PRBS( c_LIsEmpty, tcv_PayloadSize )   |                 |         | 1        |
| 7  |       | +ts_TxUM_7_PRBS( c_LlsEmpty, tcv_PayloadSize )   |                 |         | 2        |
| 8  |       | +ts_TxUM_7_PRBS( c_Lls2_7BitLls(<br>tsc_Ll7_PreviousPDU_Full,<br>tsc_Ll7_Padding ) , 0 ) |                 |         | 3        |
| 9  |       | +ts_RxUM_7_PRBS( c_LIsEmpty, tcv_PayloadSize )   |                 |         | 4        |
| 10 |       | +ts_RxUM_7_PRBS( c_Lls2_7BitLls( tsc_Ll7_PreviousPDU_Full, tsc_Ll7_Padding),0)           |                 |         | 5        |
| 11 | TBP1  | (tcv_TestBody := FALSE )   |                 | (P)     |          |
| 12 |       | +po_GenericCleanupProcedures   |                 |         |          |

**Detailed Comments**: 1. The first UM\_7\_PayloadSize octets of SDU 1. No LIs present.

(Step 2 in the expected sequence)

2. The last UM\_7\_PayloadSize octets of SDU 1. No LIs present.

(Step 3 in the expected sequence)

No further data. The first LI indicates that the previous PDU was exactly filled with the last segment of an RLC SDU. The second LI indicates that the rest of the RLC PDU contains padding.

(Step 4 in the expected sequence)

4. The first UM\_7\_PayloadSize octets of looped back SDU 1. No LIs present. (Step 5 in the expected sequence)

5. No further data. The first LI indicates that the previous PDU was exactly filled with the last segment of an RLC SDU. The second LI indicates that the

rest of the RLC PDU contains padding. (Step 6 in the expected sequence)

Test Case Name : tc\_7\_2\_2\_5

Group : RLC/UnacknowledgedMode/Segmentation/LI7Bit/

Purpose : To test that PDUs with invalid "Length indicator" '111 1110' are discarded by the receiving RLC.

Configuration :

Default : RLC\_Default

**Comments** : References: TS 25.322 clause 9.2.2.8 and 11.2.4.1

Selection Ref :

**Description**: Reassembly / 7-bit "Length Indicators" / Invalid LI value

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )  |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize + 1 ) * 8 )   |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )  |                 |         |          |
| 6  |       | +ts_TxUM_7_PRBS( c_LlsEmpty, tcv_PayloadSize )  |                 |         | 1        |
| 7  |       | +ts_TxUM_7_PRBS( c_Lls1_7BitLl( 1 ), tcv_PayloadSize - 1 )                                  |                 |         | 2        |
| 8  |       | +ts_TxUM_7_PRBS( c_Lls2_7BitLls(<br>3, tsc_Ll7_PiggyBackStatus ) ,<br>tcv_PayloadSize - 2 ) |                 |         | 3        |
| 9  |       | +ts_RxUM_7_PRBS( c_LIsEmpty, tcv_PayloadSize )  |                 |         | 4        |
| 10 |       | +ts_RxUM_7_PRBS(<br>c_Lls2_7BitLls( 1,<br>tsc_Ll7_Padding ) , 1 )                           |                 |         | 5        |
| 11 | TBP1  | (tcv_TestBody := FALSE )  |                 | (P)     |          |
| 12 |       | +po_GenericCleanupProcedures  |                 |         |          |

**Detailed Comments**: 1. The first UM\_7\_PayloadSize octets of SDU 1 (Step 2 in expected sequence)

2. The last octet of SDU 1, and the first UM\_7\_PayloadSize - 2 octets of SDU 2. The first LI

indicates the position of the last octet of SDU 1.

(Step 3 in expected sequence)

3. The last 3 octets of SDU 2. The first LI indicates the position of the last octet of SDU 2. The second LI is invalid for UM PDUs.

(Step 4 in expected sequence)

4. The first UM\_7\_PayloadSize octets of looped back SDU 1. No LIs present. (Step 5 in expected sequence)

The final octet of looped back SDU 1. The first LI indicates the position of the last octet of SDU 2. The second LI indicates that the rest of the PDU

contains padding.

(Step 6 in expected sequence)

Test Case Name : tc\_7\_2\_2\_6

Group : RLC/UnacknowledgedMode/Segmentation/LI7Bit/

: To test that PDUs with "Length Indicators" that point beyond the end of the PDU are ignored by the **Purpose** 

receiving RLC entity.

Configuration

Default : RLC\_Default

Comments : References: TS 25.322 Clauses 11.2.4.2 and 11.2.3.

Selection Ref

Description : Reassembly / 7-bit "Length Indicators" / LI value > PDU size

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )                                     |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize + 1 ) * 8 )                          |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 6  |       | +ts_TxUM_7_PRBS( c_LlsEmpty, tcv_PayloadSize )                               |                 |         | 1        |
| 7  |       | +ts_TxUM_7_PRBS( c_Lls1_7BitLl( 1 ), tcv_PayloadSize - 1 )                   |                 |         | 2        |
| 8  |       | +ts_TxUM_7_PRBS( c_LIs1_7BitLI(<br>tcv_PayloadSize), tcv_PayloadSize –<br>1) |                 |         | 3        |
| 9  |       | +ts_TxUM_7_PRBS(<br>c_Lls2_7BitLls( 5, tsc_Ll7_Padding<br>) , 5 )            |                 |         | 4        |
| 10 |       | +ts_RxUM_7_PRBS( c_LIsEmpty, tcv_PayloadSize )                               |                 |         | 5        |
| 11 |       | +ts_RxUM_7_PRBS(<br>c_Lls2_7BitLls( 1,<br>tsc_Ll7_Padding ) , 1 )            |                 |         | 6        |
| 12 | TBP1  | (tcv_TestBody := FALSE )   |                 | (P)     |          |
| 13 |       | +po_GenericCleanupProcedur es  |                 |         |          |

**Detailed Comments**: 1. The first UM\_7\_PayloadSize octets of SDU 1 (Step 2 in the expected sequence)

2. The last octet of SDU 1, and the first UM\_7\_PayloadSize - 2 octets of SDU 2. The first LI

indicates the position of the last octet of SDU 1. (Step 3 in the expected sequence)

3. The last 3 octets of SDU 2, and the first UM\_7\_PayloadSize - 4 octets of SDU 3. The first LI

indicates the position of the last octet of SDU 2, but is greater than the PDU size, so this PDU should be discarded by the UE.

(Step 4 in the expected sequence)

4. The last 5 octets of SDU 3. The first LI indicates the position of the last octet of SDU 3, and the second LI indicates that the rest of the PDU is padding.

(Step 5 in the expected sequence)

5. The first UM\_7\_PayloadSize octets of looped back SDU 1. No LIs present. (Step 6 in expected sequence)

Detailed Comments : ...

The last octet of looped back SDU 1. The first LI indicates the position of the last octet of SDU1. The second LI indicates that the rest of the PDU

contains padding.

(Step 7 in the expected sequence)

### **Test Case Dynamic Behaviour**

Test Case Name : tc\_7\_2\_2\_7

Group : RLC/UnacknowledgedMode/Segmentation/LI7Bit/

Purpose : To test that a UE in unacknowledged mode correctly handles a received RLC PDU with a 7-bit

"Length Indicator" having its value equal to the special "Length Indicator" value 1111100 when the

sequence number of the first received PDU is different from zero.

Configuration:

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 9.2.2.8, 11.2.3.

Selection Ref :

Description : Reassembly / 7-bit "Length Indicators" / First data octet LI

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                 |         |          |
| 3  |       | +pr_RB_SetupUM7( cbs_DefaultRLC_InfoUM )  |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( 12 * 8 )  |                 |         |          |
| 5  |       | ( tcv_UM_VTUS := 10 )   |                 |         | 5        |
| 6  | TBS   | ( tcv_TestBody := TRUE )  |                 |         |          |
| 7  |       | +ts_TxUM_7_PRBS( c_Lls3_7BitLls(<br>tsc_Ll7_FirstOctetOfSDU, 12,<br>tsc_Ll7_Padding), 12) |                 |         | 1        |
| 8  |       | +ts_RxUM_7_PRBS( c_Lls2_7BitLls(<br>12, tsc_Ll7_Padding ) , 12 )                          |                 |         | 2        |
| 9  |       | +ts_TxUM_7_PRBS( c_Lls3_7BitLls( tsc_Ll7_FirstOctetOfSDU, 12, tsc_Ll7_Padding), 12)       |                 |         | 3        |
| 10 |       | +ts_RxUM_7_PRBS(<br>c_Lls2_7BitLls( 12,<br>tsc_Ll7_Padding ) , 12 )                       |                 |         | 4        |
| 11 | TBP1  | (tcv_TestBody := FALSE )  |                 | (P)     |          |
| 12 |       | +po_GenericCleanupProcedures  |                 |         |          |

**Detailed Comments**: 1. Send SDU 1 with 'First octet is first octet of SDU LI' (Step 2 in expected sequence)

2. Receive looped back SDU 1 (Step 4 in expected sequence)

Send SDU 2 with 'First octet is first octet of SDU LI' (Step 5 in expected sequence)

4. Receive looped back SDU 2 (Step 6 in expected sequence)

5. Set UM\_VTUS, the next send sequence numbers to be used, to 10 and 11.

Test Case Name : tc\_7\_2\_3\_4

**Group**: RLC/AcknowledgedMode/Segmentation/LI7Bit/

Purpose : 1. To test that where an SDU exactly fills a PDU, an "Length Indicator" of all 0's is placed by the

transmitter as the first "Length Indicator" in the next PDU.

2. To test that where an SDU exactly fills a PDU, and an "Length Indicator" of all 0's is the first

"Length Indicator" in the next PDU, the receiver correctly reassembles the SDU.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 clause 9.2.2.8 and 11.3.2.1

Selection Ref :

**Description**: Segmentation and Reassembly / 7-bit "Length Indicators" / LI = 0

| Nr | Label | Behaviour Description   | Constraints Ref                        | Verdict | Comments |
|----|-------|---|--|---------|----------|
| 1  |       | START t_Guard( 300 )  |  |         |          |
| 2  |       | +pr_GenericSetupProcedures  |  |         |          |
| 3  |       | +pr_RB_SetupAM7( cbs_DefaultRLC_InfoAM )  |  |         |          |
| 4  |       | +pr_CloseUE_TestLoop( tcv_PayloadSize * 8 )                                     |  |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )  |  |         |          |
| 6  |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LIsEmpty, tcv_PayloadSize)                     |  |         | 1        |
| 7  |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )                    |  |         | 2        |
| 8  |       | +ts_TxAM_7_PRBS(<br>tsc_P_Poll,<br>c_Lls2_7BitLls(<br>tsc_Ll7_PreviousPDU_Full, |  |         | 3        |
|    |       | tsc_LI7_Padding ),<br>0 )   |  |         |          |
| 9  |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize )  |  |         | 4        |
| 10 |       | REPEAT It_RxPDUs UNTIL  |  |         | 5        |
|    |       | [ ( ( tcv_StatusReceived = TRUE ) AND   |  |         |          |
| 11 |       | TM ! TxStatus   | cas_StatusReq(                         |         | 6        |
|    |       |   | tsc_RB_AM_7_RLC,                       |         |          |
|    |       |   | cs_SF_Ack( 2 ),                        |         |          |
|    |       |   | ((tcv_PayloadSize + 2)*<br>2) - 5)     |         |          |
| 12 | TBE   | (tcv_TestBody := FALSE )  |  | (P)     |          |
| 13 |       | +po_GenericCleanupProcedur<br>es  |  |         |          |
|    |       | lt_RxPDUs   |  |         |          |
| 14 | TBP1  | TM ? RxAMD [ tcv_NumPDUsReceived = 0 ] ( tcv_NumPDUsReceived := 1 )             | car_DataInd(<br>tsc_RB_AM_7_RLC,       | (P)     |          |
|    |       | (1313 2001(00000 1- 1 )   | cr_AMD_Data(<br>tcv_AM_RxData.data ) ) |         |          |

|    |       | Test Case Dynamic   | Behaviour                        |         |          |
|----|-------|---|----------------------------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref                  | Verdict | Comments |
| 15 | TBP2  | TM ? RxAMD [ tcv_NumPDUsReceived = 1 ] ( tcv_NumPDUsReceived := 2 ) | car_DataInd(<br>tsc_RB_AM_7_RLC, | (P)     |          |
|    |       | ,   | cr_AMD_LI_Data(                  |         |          |
|    |       |   | c_Lls2_7BitLls(                  |         |          |
|    |       |   | tsc_LI7_PreviousPDU_Full,        |         |          |
|    |       |   | tsc_Ll7_Padding ),               |         |          |
|    |       |   | -))                              |         |          |
| 16 | TBP3  | TM ? RxAMD<br>[ ( tcv_NumPDUsReceived = 1 ) AND                     | car_DataInd(<br>tsc_RB_AM_7_RLC, | (P)     |          |
|    |       | ( tcv_StatusReceived = FALSE ) ] ( tcv_NumPDUsReceived := 2,        | cr_AMD_LI_DataStatus(            |         |          |
|    |       | tcv_StatusReceived := TRUE )  | c_Lls2_7BitLls(                  |         |          |
|    |       |   | tsc_LI7_PreviousPDU_Full,        |         |          |
|    |       |   | tsc_Ll7_PiggyBackStatus ),       |         |          |
|    |       |   | -))                              |         |          |
| 17 | TBP4  | TM ? RxStatus [ tcv_StatusReceived = FALSE ]                        | car_StatusInd(                   | (P)     |          |
|    |       | (tcv_StatusReceived := TRUE)  | tsc_RB_AM_7_RLC)                 |         |          |
| 18 | TBF1  | TM ? RxAMD<br>( tcv_OtherReceived := TRUE )                         | car_DataInd(<br>tsc_RB_AM_7_RLC, | (F)     | 7        |
|    |       |   | cr_AMD_Any)                      |         |          |
| 19 | TBF2  | TM ? RxStatus<br>( tcv_OtherReceived := TRUE )                      | car_StatusInd(                   | (F)     | 7        |
|    |       | ( tov_otherneoerred .= TNOL )                                       | tsc_RB_AM_7_RLC)                 |         |          |

- **Detailed Comments**: 1. The first AM\_7\_PayloadSize octets of SDU 1. (Step 2 in the expected sequence)
  - 2. The last AM\_7\_PayloadSize octets of SDU 1. (Step 3 in the expected sequence)
  - 3. A PDU containing the Previous PDU full LI, and padding. (Step 4 in the expected sequence)
  - 4. Initialise tcv\_AM\_RxData with the next AM\_7\_PayloadSize octets expected.
  - 5. Receive the looped back data, and a STATUS PDU. This must consist of either a PDU with padding included, and a STATUS PDU, or a PDU with a piggybacked STATUS PDU. The STATUS PDU may arrive before or after the data PDU. The variables tcv\_StatusReceived, and tcv\_NumPDUsReceived are used as flags to ensure that the correct information has been used. (Steps 5, 6, and 6a in the expected sequence)
  - 6. Acknowledge receipt of PDUs. (Step 7 in expected sequence)
  - 7. Reception of other unexpected events is handled within the test case, rather than in the default behaviour so that tcv\_OtherReceived can be updated appropriately.

Test Case Name : tc\_7\_2\_3\_5

: RLC/AcknowledgedMode/Segmentation/LI7Bit/ Group

**Purpose** : To test that PDUs with reserved "Length Indicators" are discarded by the receiving RLC.

Configuration

Default : RLC\_Default

Comments : References: TS 25.322 clause 9.2.2.8 and 11.3.4.6

Selection Ref

Description : Reassembly / 7-bit "Length Indicators" / Reserved LI value

| Nr       | Label | Behaviour Description  | Constraints Ref      | Verdict | Comments |
|----------|-------|--|----------------------|---------|----------|
| 1        |       | START t_Guard( 300 )   |                      |         |          |
| 2        |       | +pr_GenericSetupProcedures   |                      |         |          |
| 3        |       | +pr_RB_SetupAM7(<br>cds_RLC_InfoAM_7_2_3_5)  |                      |         |          |
| 4        | TBS   | ( tcv_TestBody := TRUE )   |                      | (P)     |          |
| 5        |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )   |                      |         | 1        |
| 6        |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls2_7BitLls(1,<br>tsc_Ll7_FirstOctetOfSDU ),<br>tcv_PayloadSize - 2 ) |                      |         | 2        |
| 7        |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tsc_Ll7_Reserved2 ),<br>tcv_PayloadSize - 1 )             |                      |         | 3        |
| 8        |       | +ts_TxAM_7_PRBS( tsc_P_Poll, c_Lls2_7BitLls( 5, tsc_Ll7_Padding ), 5 )                                     |                      |         | 4        |
| 9        |       | +lt_RxNack1And2  |                      |         |          |
| 10       | TBE   | (tcv_TestBody := FALSE )   |                      |         |          |
| 11       |       | +po_GenericCleanupProcedures   |                      |         |          |
|          |       | lt_RxNack1And2   |                      |         |          |
| 12       |       | TM ? RxStatus  | car_StatusInd(       |         | 5        |
|          |       | ( tcv_StatusPDU := RxStatus.data )   | tsc_RB_AM_7_RLC)     |         |          |
| 13       |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(   | tso_rtb_rtwi_r_rtcoy |         | 6        |
|          |       | cr_SUFI_Params(<br>INT_TO_BIT(0, tsc_AM_SN_Size),<br>INT_TO_BIT(3, tsc_AM_SN_Size),<br>*, *, *,            |                      |         |          |
|          |       | INT_TO_BIT(1, tsc_AM_SN_Size), INT_TO_BIT(2, tsc_AM_SN_Size), *),  |                      |         |          |
| <u> </u> |       | tcv_StatusPDU.superFieldsAndPadRx ))   |                      | (5)     |          |
| 14       | TBP1  | [tcv_ResAndSUFIs.result = TRUE]  |                      | (P)     | 6        |
| 15       | TBF1  | [ tcv_ResAndSUFIs.result = FALSE ]   |                      | (F)     | 6        |

Detailed Comments: 1. The first AM\_7\_PayloadSize octets of SDU 1 (Step 2 in the expected sequence)

2. The last octet of SDU 1 + the first AM $_7$ PayloadSize – 2 octets of SDU2, LI = 1111100

(Step 3 in the expected sequence)

3. The last 3 octets of SDU2 + the first AM\_7\_PayloadSize - 4 octets of SDU 3, LI = 1111101

# Detailed Comments : ...

(Step 4 in the expected sequence)

- 4. The last 5 octets of SDU3 + poll, LI = 5, (Step 5 in the expected sequence)
- 5. Receive any STATUS PDU from the UE. (Step 6 in the expected sequence)
- 6. Verify that the STATUS PDU negatively acknowledges PDUs 1 and 2, and acknowledges all other received PDUs.
- 7. Set parameters necessary for verification
- check LB <= LSN received <= UB for all LSN received not in NackList
- check SNs in NackList not positively acknowledged

Test Case Name : tc\_7\_2\_3\_6

**Group**: RLC/AcknowledgedMode/Segmentation/LI7Bit/

Purpose : To test that PDUs with "Length Indicators" that point beyond the end of the PDU are discarded by

the receiving RLC.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 11.3.4.5.

Selection Ref :

**Description**: Reassembly / 7-bit "Length Indicators" / LI value > PDU size

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|------------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                  |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                  |         |          |
| 3  |       | +pr_RB_SetupAM7(<br>cds_RLC_InfoAM_7_2_3_6)  |                  |         |          |
| 4  | TBS   | ( tcv_TestBody := TRUE )   |                  |         |          |
| 5  |       | <pre>+ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )</pre>  |                  |         | 1        |
| 6  |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( 1 ), tcv_PayloadSize - 1 )  |                  |         | 2        |
| 7  |       | <pre>+ts_TxAM_7_PRBS( tsc_P_NoPoll, c_Lls1_7BitLl( tcv_PayloadSize), tcv_PayloadSize - 1 )</pre>                                       |                  |         | 3        |
| 8  |       | <pre>+ts_TxAM_7_PRBS( tsc_P_Poll, c_Lls2_7BitLls( 5, tsc_Ll7_Padding ), 5 )</pre>  |                  |         | 4        |
| 9  |       | +lt_RxNack2  |                  |         |          |
| 10 | TBE   | (tcv_TestBody := FALSE )   |                  |         |          |
| 11 |       | +po_GenericCleanupProcedures   |                  |         |          |
|    |       | lt_RxNack2   |                  |         |          |
| 12 |       | TM ? RxStatus  | car_StatusInd(   |         | 5        |
|    |       | ( tcv_StatusPDU := RxStatus.data )   | tsc_RB_AM_7_RLC) |         |          |
| 13 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(   | tsc_Nb_AW_I_NEC) |         | 6        |
|    |       | cr_SUFI_Params( INT_TO_BIT(0, tsc_AM_SN_Size), INT_TO_BIT(3, tsc_AM_SN_Size),  *,  *,  INT_TO_BIT(2, tsc_AM_SN_Size),  *,  *,  *,  *), |                  |         |          |
|    |       | tcv_StatusPDU.superFieldsAndPadRx ))   |                  |         |          |
| 14 | TBP1  | [ tcv_ResAndSUFIs.result = TRUE ]  |                  | (P)     | 6        |
| 15 | TBF1  | [ tcv_ResAndSUFIs.result = FALSE ]   |                  | (F)     | 6        |

**Detailed Comments**: 1. The first AM\_7\_PayloadSize octets of SDU 1

(Step 2 in the expected sequence)

2. The last octet of SDU 1 + the first AM\_7\_PayloadSize - 2 octets of SDU 2, The LI indicates

the position of the last octet of SDU 1. (Step 3 in the expected sequence)

3. The last 3 octets of SDU 2, and the first UM\_PayloadSize - 4 octets of SDU 3. The LI

# Detailed Comments : ...

should indicate the position of the last octet of SDU 2, but instead contains an erroneous value.

(Step 4 in the expected sequence)

4. The last 5 octets of SDU 3. The LI indicates the position of the last octet

(Step 5 in the expected sequence)

5. Receive any STATUS PDU from the UE. (Step 6 in the expected sequence)

- 6. Verify that the STATUS PDU negatively acknowledges PDU 2, and acknowledges all other received PDUs.
- 7. Set parameters necessary for verification
- check LB <= LSN received <= UB for all LSN received not in NackList</li>- check SNs in NackList not positively acknowledged

Test Case Name : tc\_7\_2\_3\_2

**Group** : RLC/AcknowledgedMode/Segmentation/

Purpose : To test that if the configured AMD PDU size is <= I26 octets, 7 bit "Length Indicators" are used in

transmitted AMD PDUs, otherwise, 15 bit "Length Indicators" are used.

Configuration :

Default : RLC\_Default

Comments: References: TS 25.322 Clauses 9.2.2.8, 9.2.2.9

Selection Ref :

**Description**: Segmentation and reassembly / Selection of 7 or 15 bit Length Indicators

| Nr | Label | Behaviour Description  | Constraints Ref                          | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | START t_Guard( 300 )   |  |         |          |
| 2  |       | +pr_GenericSetupProcedures   |  |         |          |
| 3  |       | +pr_RB_SetupAM7( cbs_DefaultRLC_InfoAM )   |  |         |          |
| 4  |       | +pr_CloseUE_TestLoop(<br>tsc_TestDataSize7Or15 * 8 )   |  |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )   |  |         |          |
| 6  |       | +ts_TxAM_7_PRBS( tsc_P_Poll, c_Lls2_7BitLls( tsc_TestDataSize7Or15, tsc_Ll7_Padding), tsc_TestDataSize7Or15) |  |         | 1        |
| 7  |       | +ts_GetRxAM_PRBS(<br>tsc_TestDataSize7Or15)  |  |         | 2        |
| 8  |       | REPEAT It_Rx7BitLI UNTIL   |  |         | 3        |
|    |       | [ ( ( tcv_StatusReceived = TRUE ) AND  |  |         |          |
|    |       | ( tcv_OtherReceived = TRUE ) ]   |  |         |          |
| 9  |       | TM ! TxStatus  | cas_StatusReq(                           |         | 3        |
|    |       |  | tsc_RB_AM_7_RLC,                         |         |          |
|    |       |  | cs_SF_Ack( 1 ),                          |         |          |
|    |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 ) |         |          |
| 10 |       | +po_OpenUE_TestLoop  |  |         | 4        |
| 11 |       | +ts_RRC_RB_ReIRLC(<br>tsc_DefaultCellId)   |  |         | 4        |
| 12 |       | +pr_RB_SetupAM15(<br>cds_RLC_InfoAM_7_2_3_2_R<br>un2)  |  |         | 4        |
| 13 |       | +pr_CloseUE_TestLoop(<br>tsc_TestDataSize7Or15 * 8 )   |  |         | 4        |

|    | Test Case Dynamic Behaviour |   |                                    |         |          |  |  |
|----|-----------------------------|---|------------------------------------|---------|----------|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref                    | Verdict | Comments |  |  |
| 14 |                             | +ts_TxAM_15_PRBS(   |                                    |         | 5        |  |  |
|    |                             | tsc_P_Poll,<br>c_Lls2_15BitLls(   |                                    |         |          |  |  |
|    |                             | tsc_TestDataSize7Or15,  |                                    |         |          |  |  |
|    |                             | tsc_LI15_Padding ),   |                                    |         |          |  |  |
|    |                             | tsc_TestDataSize7Or15)  |                                    |         |          |  |  |
| 15 |                             | +ts_GetRxAM_PRBS(<br>tsc_TestDataSize7Or15)                                   |                                    |         | 6        |  |  |
| 16 |                             | ( tcv_StatusReceived := FALSE, tcv_NumPDUsReceived := 0, tcv_OtherPeccived := |                                    |         | 7        |  |  |
|    |                             | tcv_OtherReceived := FALSE )  |                                    |         |          |  |  |
| 17 |                             | REPEAT It_Rx15BitLI<br>UNTIL<br>[ ( (<br>tcv_StatusReceived =                 |                                    |         | 8        |  |  |
|    |                             | TRUE ) AND  |                                    |         |          |  |  |
|    |                             | (<br>tcv_NumPDUsReceive<br>d = 1)) OR   |                                    |         |          |  |  |
|    |                             | ( tcv_OtherReceived = TRUE ) ]  |                                    |         |          |  |  |
| 18 |                             | TM!TxStatus   | cas_StatusReq(                     |         | 3        |  |  |
|    |                             |   | tsc_RB_AM_15_RLC,                  |         |          |  |  |
|    |                             |   | cs_SF_Ack( 1 ),                    |         |          |  |  |
|    |                             |   | ((tcv_PayloadSize + 2)*<br>2) - 5) |         |          |  |  |
| 19 | TBE                         | (tcv_TestBody :=<br>FALSE )   |                                    |         |          |  |  |
| 20 |                             | +po_GenericClean upProcedures   |                                    |         |          |  |  |
|    |                             | lt_Rx7BitLl   |                                    |         |          |  |  |
| 21 | TBP1                        | TM ? RxAMD [tcv_NumPDUsReceived = 0]  | car_DataInd(<br>tsc_RB_AM_7_RLC,   | (P)     | 3        |  |  |
|    |                             | ( tcv_NumPDUsReceived := 1 )  | cr_AMD_LI_Data(                    |         |          |  |  |
|    |                             |   | c_LIs2_7BitLIs(                    |         |          |  |  |
|    |                             |   | tsc_TestDataSize7Or15,             |         |          |  |  |
|    |                             |   | tsc_LI7_Padding ),                 |         |          |  |  |
|    |                             |   | tcv_AM_RxData.data))               |         |          |  |  |

|    | Test Case Dynamic Behaviour |   |  |         |          |  |  |
|----|-----------------------------|---|--|---------|----------|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref                                  | Verdict | Comments |  |  |
| 22 | TBP2                        | TM ? RxAMD [ ( tcv_NumPDUsReceived = 0 ) AND                                      | car_DataInd(<br>tsc_RB_AM_7_RLC,                 | (P)     | 3        |  |  |
|    |                             | ( tcv_StatusReceived = FALSE ) ]<br>( tcv_NumPDUsReceived := 1,                   | cr_AMD_LI_DataStatus(                            |         |          |  |  |
|    |                             | tcv_StatusReceived := TRUE )  | c_Lls2_7BitLls(                                  |         |          |  |  |
|    |                             |   | tsc_TestDataSize7Or15,                           |         |          |  |  |
|    |                             |   | tsc_LI7_PiggyBackStatus),                        |         |          |  |  |
|    |                             |   | tcv_AM_RxData.data))                             |         |          |  |  |
| 23 | ТВР3                        | TM ? RxStatus<br>[ tcv_StatusReceived = FALSE ]<br>( tcv_StatusReceived := TRUE ) | car_StatusInd(<br>tsc_RB_AM_7_RLC)               | (P)     | 3        |  |  |
| 24 | TBF1                        | TM ? RxAMD<br>( tcv_OtherReceived := TRUE )                                       | car_DataInd(<br>tsc_RB_AM_7_RLC,<br>cr_AMD_Any)  | (F)     | 9        |  |  |
| 25 | TBF2                        | TM ? RxStatus<br>( tcv_OtherReceived := TRUE )                                    | car_StatusInd(<br>tsc_RB_AM_7_RLC)               | (F)     | 9        |  |  |
|    |                             | lt_Rx15BitLl  |  |         |          |  |  |
| 26 | TBP4                        | TM ? RxAMD<br>[ tcv_NumPDUsReceived = 0 ]<br>( tcv_NumPDUsReceived := 1 )         | car_DataInd(<br>tsc_RB_AM_15_RLC,                | (P)     | 8        |  |  |
|    |                             | (101_101 2001.000)  | cr_AMD_LI_Data(                                  |         |          |  |  |
|    |                             |   | c_Lls2_15BitLls(                                 |         |          |  |  |
|    |                             |   | tsc_TestDataSize7Or15,                           |         |          |  |  |
|    |                             |   | tsc_LI15_Padding ),                              |         |          |  |  |
|    |                             |   | tcv_AM_RxData.data))                             |         |          |  |  |
| 27 | TBP5                        | TM ? RxAMD<br>[ ( tcv_NumPDUsReceived = 0 ) AND                                   | car_DataInd(<br>tsc_RB_AM_15_RLC,                | (P)     | 8        |  |  |
|    |                             | ( tcv_StatusReceived = FALSE ) ]<br>( tcv_NumPDUsReceived := 1,                   | cr_AMD_LI_DataStatus(                            |         |          |  |  |
|    |                             | tcv_StatusReceived := TRUE )  | c_Lls2_15BitLls(                                 |         |          |  |  |
|    |                             |   | tsc_TestDataSize7Or15,                           |         |          |  |  |
|    |                             |   | tsc_LI15_PiggyBackStatus ),                      |         |          |  |  |
| 00 | TDDC                        | TM 2 PuCtorius  | tcv_AM_RxData.data))                             | (D)     |          |  |  |
| 28 | TBP6                        | TM ? RxStatus<br>[ tcv_StatusReceived = FALSE ]<br>( tcv_StatusReceived := TRUE ) | car_StatusInd(<br>tsc_RB_AM_15_RLC)              | (P)     | 8        |  |  |
| 29 | TBF3                        | TM ? RxAMD<br>( tcv_OtherReceived := TRUE )                                       | car_DataInd(<br>tsc_RB_AM_15_RLC,<br>cr_AMD_Any) | (F)     | 9        |  |  |
| 30 | TBF4                        | TM ? RxStatus<br>( tcv_OtherReceived := TRUE )                                    | car_StatusInd(<br>tsc_RB_AM_15_RLC)              | (F)     | 9        |  |  |

**Detailed Comments**: 1. Send a 10 byte PDU using 7 bit length indicators (Step 2 in the expected sequence)

# Detailed Comments: ...

- 2. Initialise tcv\_AM\_RxData with the next payload unit expected to be received.
- 3. Receive the looped back data, and a STATUS PDU. This must consist of either a PDU with padding included, and a STATUS PDU, or a PDU with a piggybacked STATUS PDU. The STATUS PDU may arrive before or after the data PDU. The variables tcv\_StatusReceived, and tcv\_NumPDUsReceived are used as flags to ensure that the correct information has been used. (Steps 3, 3a, and 4 in the expected sequence)
- 4 .Reconfigure the transport channel such that 15 bit length indicators are required. Note that this is achieved by opening the test loop, releasing the radio bearer, establishing a new radio bearer, and re-closing the test loop. (Step 5,6 in the expected sequence)
- Send a 10 byte PDU using 15 bit length indicators (Step 7 in the expected sequence)
- 6. Initialise tcv\_AM\_RxData with the next payload unit expected to be received.
- 7. Reset flag variables.
- 8. Receive the looped back data, and a STATUS PDU. This must consist of either a PDU with padding included, and a STATUS PDU, or a PDU with a piggybacked STATUS PDU. The STATUS PDU may arrive before or after the data PDU. The variables tcv\_StatusReceived, and tcv\_NumPDUsReceived are used as flags to ensure that the correct information has been used. (Steps 8, 8a, and 9 in the expected sequence)
- Reception of other unexpected events is handled within the test case, rather than in the default behaviour so that tcv\_OtherReceived can be updated appropriately.

**Test Case Name** : tc\_7\_2\_3\_12

**Group**: RLC/AcknowledgedMode/SequenceNumbering/

Purpose : 1. To verify that the UE transmits the first PDU with the Sequence Number field equal to 0.

2. To verify that the UE increments the Sequence Number field according to the number of PDUs

transmitted.

3. To verify that the UE wraps the Sequence Number after transmitting the  $2^12-1$ th PDU.

4. To verify that the UE receiver accepts PDUs with SNs that wrap around every 2^12-1th PDU.

Configuration

Default : RLC\_Default

**Comments**: References: TS 25.322, Clauses 9.4 and 11.3.2.1.

Selection Ref :

**Description**: Correct use of Sequence Numbering

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 3000 )  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +pr_RB_SetupAM7(<br>cds_RLC_InfoAM_7_2_3_12)                                   |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize * 2 - 1 ) * 8 )                        |                 |         |          |
| 5  | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 6  |       | REPEAT It_TxAndRx1SDU<br>UNTIL [ tcv_NumSDUsTxAndRx = 2049                     |                 |         | 1        |
| 7  | TBP1  | (tcv_TestBody := FALSE )   |                 | (P)     |          |
| 8  | IDPI  | +po_GenericCleanupProcedures   |                 | (P)     |          |
| 0  |       | · ·  |                 |         |          |
| 9  |       | lt_TxAndRx1SDU<br>+lt_IncNumPDUsAndSetPollBit                                  |                 |         | 2        |
| 10 |       | +ts_TxAM_7_PRBS( tcv_Poll, c_LlsEmpty,   |                 |         | 3        |
| 10 |       | tcv_PayloadSize )  |                 |         |          |
| 11 |       | +lt_IncNumPDUsAndSetPollBit  |                 |         | 2        |
| 12 |       | +ts_TxAM_7_PRBS(   |                 |         | 4        |
|    |       | tcv_Poll,<br>c_Lls1_7BitLl(<br>tcv_PayloadSize – 1 ),<br>tcv_PayloadSize – 1 ) |                 |         |          |
| 13 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize )  |                 |         | 5        |
| 14 |       | +lt_RxPDU( cr_AMD_Data(<br>tcv_AM_RxData.data ) )                              |                 |         | 6        |
| 15 |       | +lt_CheckRxHeader  |                 |         | 7        |
| 16 |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize - 1 )                                     |                 |         | 8        |
| 17 |       | +lt_RxPDU( cr_AMD_LI_Data(   |                 |         | 6        |
|    |       | c_Lls1_7BitLl( tcv_PayloadSize – 1   |                 |         |          |
|    |       | ),<br>tcv_AM_RxData.data))   |                 |         |          |
| 18 |       | +lt_CheckRxHeader  |                 |         | 7        |
| 19 |       | ( tcv_NumSDUsTxAndRx := tcv_NumSDUsTxAndRx + 1 )                               |                 |         | 9        |
|    |       | It_IncNumPDUsAndSetPollBit   |                 |         |          |
| 20 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1 )   |                 |         | 2        |
| 21 |       | [ ( tcv_NumPDUsTx MOD 64 ) = 0 ]   |                 |         | 2        |

|    | Test Case Dynamic Behaviour |  |   |         |          |  |  |
|----|-----------------------------|--|---|---------|----------|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref   | Verdict | Comments |  |  |
| 22 |                             | [ ( tcv_NumPDUsTx ) <> 4096 ]  |   |         | 2        |  |  |
| 23 |                             | ( tcv_Poll := tsc_P_Poll )   |   |         | 2        |  |  |
| 24 |                             | [TRUE]   |   |         | 2        |  |  |
| 25 |                             | ( tcv_Poll := tsc_P_NoPoll )   |   |         | 2        |  |  |
| 26 |                             | [TRUE]   |   |         | 2        |  |  |
| 27 |                             | [ ( $tcv_NumPDUsTx$ ) = 4098 ]                                       |   |         | 2        |  |  |
| 28 |                             | ( tcv_Poll := tsc_P_Poll )   |   |         | 2        |  |  |
| 29 |                             | [TRUE]   |   |         | 2        |  |  |
| 30 |                             | ( tcv_Poll := tsc_P_NoPoll )   |   |         | 2        |  |  |
|    |                             | It_RxPDU( p_ExpectedPDU: AMD_PDU )                                   |   |         |          |  |  |
| 31 |                             | [TRUE]   |   |         |          |  |  |
| 32 | RX1                         | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )                          | car_DataInd(<br>tsc_RB_AM_7_RLC,                                    |         | 6        |  |  |
|    |                             |  | p_ExpectedPDU)  |         |          |  |  |
| 33 | TBF1                        | TM ? RxAMD (tcv_AMD_PDU := RxAMD.data                                | car_DataInd(  | (F)     | 6        |  |  |
|    |                             | )  | tsc_RB_AM_7_RLC,  |         |          |  |  |
|    |                             |  | cr_AMD_Any)   |         |          |  |  |
| 34 |                             | TM ? RxStatus  | car_StatusInd(  |         | 6        |  |  |
|    |                             |  | tsc_RB_AM_7_RLC)  |         |          |  |  |
| 35 |                             | GOTO RX1   |   |         |          |  |  |
|    |                             | lt_CheckRxHeader   |   |         |          |  |  |
| 36 |                             | +lt_CheckRxSN  |   |         | 10       |  |  |
| 37 |                             | +lt_CheckRxPollBit   |   |         | 11       |  |  |
| 38 |                             | +ts_IncrementAM_VRR  |   |         | 12       |  |  |
|    |                             | lt_CheckRxSN   |   |         |          |  |  |
| 39 |                             | [ tcv_AMD_PDU.seqNum =<br>INT_TO_BIT( tcv_AM_VRR, tsc_AM_SN_Size ) ] |   |         | 10       |  |  |
| 40 | TBF2                        | [TRUE]   |   | (F)     | 10       |  |  |
|    |                             | lt_CheckRxPollBit  |   |         |          |  |  |
| 41 |                             | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]                              |   |         | 11       |  |  |
| 42 |                             | TM ! TxStatus  | cas_StatusReq(<br>tsc_RB_AM_7_RLC,                                  |         | 11       |  |  |
|    |                             |  | cs_SF_Ack(<br>(BIT_TO_INT(<br>tcv_AMD_PDU.seqNum)+<br>1) MOD 4096), |         |          |  |  |
|    |                             |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )                            |         |          |  |  |
| 43 |                             | [TRUE]   |   |         | 11       |  |  |

Detailed Comments: 1. Send and receive 2049 RLC SDUs

- 2. This local tree increments tcv\_NumPDUsTx by one, and sets tcv\_Poll to tsc\_P\_Poll every 64th PDU, except the 4096th, but the 4098th. For all other PDUs, tcv\_Poll is set to tsc\_P\_NoPoll.
- 3. The first AM\_7\_PayloadSize octets of SDU N  $\,$
- 4. The last AM\_7\_PayloadSize 1 octets of SDU N. The LI indicates the

#### Detailed Comments: ...

position of the last octet of SDU N

- Initialise tcv\_AM\_RxData with the first AM\_7\_PayloadSize octets expected in looped back SDU N.
- 6. Attempt to receive the expected PDU. Reception of any other PDU results in a preliminary failure verdict. Received STATUS PDUs are explicitly ignored.
- 7. Verify that the received SN is correct, and transmit a STATUS PDU acknowledging all received PDUs if the poll bit was set in the previous looped back PDU. Increment tcv\_AM\_VRR to the next expected sequence number.
- 8. Initialise tcv\_AM\_RxData with the last AM\_7\_PayloadSize 1 octets expected in looped back SDU N.
- Increment counter for the number of SDUs that have been transmitted and received.
- 10. Verify that the received SN is equal to tcv\_AM\_VRR, the next SN expected to be received. Any other value results in a preliminary failure verdict.
- 11. Check to see if the polling bit is set to tsc\_P\_Poll in the last PDU received from the UE, and generate a STATUS PDU containing an ACK SUFI acknowledging all received PDUs.
- 12. Increment tcv\_AM\_VRR to the next expected sequence number, resetting to 0 after SN 4095

Test Case Name : tc\_7\_2\_3\_13

Group : RLC/AcknowledgedMode/Windowing/

Purpose : To verify that the UE does not transmit PDUs with sequence numbers outside of the transmit

window, except the PDU with SN=VT(S)-1, even when the transmit window size is changed by the

receiver

Configuration :

Default : RLC\_Default

Comments : References: TS 25.322, Clause 9.4.

This version of the test case implements 7.2.3.13 "discard version"

1. Original approved test case is transferred into local test step It\_7\_2\_3\_13Buffering and all local

test steps are suffixed with B (like "Buffering")

2. Original approved test case is copied and renamed It\_7\_2\_3\_13Discard, in the copy all local test

step are kept and the names are suffixed with D (like "Discard")

3. In the new test case lines 1–5 are introduced to use the right version ("Buffering" or "Discard")

depending on the setting of the PIXIT;

the PIXIT items px\_RLC\_SDU\_buffering and px\_RLC\_SDU\_discard are mutually exclusive.

4. Adaptation of the algorithm in the newly created test step  $\mbox{lt}_{-7}$ 2\_3\_13Discard to the discard

case.

Selection Ref :

**Description**: Control of Transmit Window

| Nr  | Label | Behaviour Description                            | Constraints Ref | Verdict | Comments   |
|-----|-------|--|-----------------|---------|--|
| 1   |       | [px_RLC_SDU_buffering]                           |                 |         |  |
| 2   |       | +lt_7_2_3_13Buffering                            |                 |         | This test step contains the approve d test case with all local trees suffixed with B like bufferin g                     |
| 3 4 |       | [TRUE] +lt_7_2_3_13Discard  lt_7_2_3_13Buffering |                 |         | This test step contains the discard version of the approve d test case with all local trees suffixed with D like discard |
| 5   |       | START t_Guard( 300 )                             |                 |         |  |
| 6   |       | +pr_GenericSetupProcedures                       |                 |         |  |

|    |          | Test Case Dynamic   | Behaviour                        |         |          |
|----|----------|---|----------------------------------|---------|----------|
| Nr | Label    | Behaviour Description   | Constraints Ref                  | Verdict | Comments |
| 7  |          | +lt_CtrlTxWindowTestB(<br>cds_RLC_InfoAM_7_2_3_13_Run1, 8)                                    |                                  |         | 1        |
| 8  |          | ( tcv_RB_Established := FALSE )   |                                  |         |          |
| 9  |          | +ts_RRC_RB_ReIRLC(tsc_DefaultCellId)  |                                  |         |          |
| 10 |          | +lt_CtrlTxWindowTestB(<br>cds_RLC_InfoAM_7_2_3_13_Run2,<br>128)                               |                                  |         | 2        |
| 11 |          | +po_GenericCleanupProcedures  |                                  |         |          |
|    |          | It_CtrlTxWindowTestB( p_RLC_Info: RLC_Info; p_W: INTEGER )                                    |                                  |         |          |
| 12 |          | +pr_RB_SetupAM7( p_RLC_Info )   |                                  |         |          |
| 13 |          | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 )  * 8 )  |                                  |         |          |
| 14 |          | (tcv_NumPDUsTx := 0,<br>tcv_NumPDUsRx := 0,<br>tcv_UE_TxWinFull := FALSE,<br>tcv_TxOK :=TRUE) |                                  |         | 14       |
| 15 |          | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )   |                                  |         |          |
| 16 | TBS      | ( tcv_TestBody := TRUE )  |                                  |         |          |
| 17 |          | START t_TTI   |                                  |         | 3        |
| 18 |          | REPEAT It_TxAndRxB( p_W )   |                                  |         | 4        |
|    |          | UNTIL [ tcv_NumPDUsRx = p_W + 1]  |                                  |         |          |
| 19 |          | ( tcv_TxOK :=TRUE )   |                                  |         | 14       |
| 20 |          | REPEAT lt_TxAndRxB( p_W )   |                                  |         | 7        |
|    |          | UNTIL [ tcv_NumPDUsRx = 2 * p_W + 2 ]   |                                  |         |          |
| 21 |          | ( tcv_TxOK :=TRUE )   |                                  |         | 14       |
| 22 |          | REPEAT It_TxAndRxB( p_W )   |                                  |         | 7.1      |
|    |          | UNTIL [ $tcv_NumPDUsRx = 2 * p_W + p_W/2 + 3$ ]   |                                  |         |          |
| 23 |          | ( tcv_TxOK :=TRUE )   |                                  |         | 14       |
| 24 |          | REPEAT It_TxAndRxB( p_W )   |                                  |         | 8        |
|    |          | UNTIL [ tcv_NumPDUsRx = 3 * p_W + 4]  |                                  |         |          |
| 25 | TBP1     | (tcv_TestBody := FALSE )  |                                  | (P)     |          |
| 26 |          | CANCEL t_TTI  |                                  |         |          |
| 27 |          | +po_OpenUE_TestLoop   |                                  |         |          |
|    |          | lt_TxAndRxB( p_W: INTEGER )   |                                  |         |          |
| 28 |          | TM ? RxAMD<br>(tcv_AMD_PDU := RxAMD.data)   | car_DataInd(<br>tsc_RB_AM_7_RLC, |         | 9        |
|    |          | (tov_/wwb_r bo := too wwb.data)   | cr_AMD_LI_Data(                  |         |          |
|    |          |   | c_Lls1_7BitLl(                   |         |          |
|    |          |   | tcv_PayloadSize – 1),            |         |          |
|    |          |   |                                  |         |          |
| 29 |          | +lt_UpdateVarsAndCheckTxWinFullB (p_W)  | tcv_AM_RxData.data))             |         | 10       |
| 20 | <u> </u> | 1opaatovaro/maoriook (xxxxiii alib (p_vv)   | I                                | L       | 1 '      |

|    |       | Test Case Dynamic  | : Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 30 | TBF1  | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,  | (F)     | 11       |
|    |       |  | cr_AMD_Any)   |         |          |
| 31 |       | +lt_UpdateVarsAndCheckTxWinFullB(p_W)  |   |         | 10       |
| 32 |       | TM ? RxStatus  | car_StatusInd(<br>tsc_RB_AM_7_RLC)  |         | 12       |
| 33 |       | ? TIMEOUT t_NoUE_Tx  |   |         | 13       |
| 34 |       | (tcv_UE_TxWinFull := FALSE)  |   |         | 13       |
| 35 |       | [ (tcv_NumPDUsTx <> 2 * p_W + 2) ]   | Old Book  |         | 13       |
| 36 |       | TM!TxStatus  | cas_StatusReq(  |         | 13       |
|    |       |  | tsc_RB_AM_7_RLC,  |         |          |
|    |       |  | cs_SF_Ack( tcv_AM_VRR ),  |         |          |
|    |       |  | (2 * ( tcv_PayloadSize + 2<br>)) - 5)   |         |          |
| 37 |       | [ tcv_NumPDUsTx = 2 * p_W + 2 ]  |   |         | 13       |
| 38 |       | TM!TxStatus  | cas_StatusReq(  |         | 13.1     |
|    |       |  | tsc_RB_AM_7_RLC,  |         |          |
|    |       |  | cs_SF_Ack( tcv_AM_VRR ),  |         |          |
|    |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )  |         |          |
| 39 |       | TM ! TxStatus  | cas_StatusReq(<br>tsc_RB_AM_7_RLC,  |         | 13.1     |
|    |       |  | cs_SF_WindowSizeAndNoM<br>ore(p_W/2),<br>( 2 * ( tcv_PayloadSize + 2 )<br>) - 6 ) |         |          |
| 40 |       | ? TIMEOUT t_TTI  |   |         | 3        |
| 41 |       | [ tcv_NumPDUsTx < 3 * p_W + 4 ]  |   |         | 14       |
| 42 |       | [ tcv_TxOK = TRUE ]  |   |         | 14       |
| 43 |       | +ts_TxAM_7_PRBS(<br>tsc_P_Poll,<br>c_Lls1_7BitLl(<br>tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1) |   |         | 15       |
| 44 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1   |   |         | 15       |
| 45 |       | START t_TTI  |   |         | 3        |
| 46 |       | [ (tcv_NumPDUsTx = p_W + 1)  |   |         | 14       |
|    |       | OR (tcv_NumPDUsTx = 2 * p_W + 2)   |   |         |          |
|    |       | OR (tcv_NumPDUsTx = 2 * p_W + p_W/2 + 3) ]   |   |         |          |
| 47 |       | ( tcv_TxOK := FALSE )  |   |         | 14       |
| 48 |       | [TRUE]   |   |         |          |
| 49 |       | [tcv_TxOK = FALSE]   |   |         | 14       |
| 50 |       | START t_TTI  |   |         | 3        |

|    |       | Test Case Dynamic   | Behaviour       |         |          |
|----|-------|---|-----------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 51 |       | [TRUE]  |                 |         | 14       |
|    |       | It_UpdateVarsAndCheckTxWinFullB( p_W: INTEGER )   |                 |         |          |
| 52 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )   |                 |         | 16       |
| 53 |       | [BIT_TO_INT(tcv_AMD_PDU.seqNum) = tcv_AM_VRR]   |                 |         | 16.1     |
| 54 |       | +ts_IncrementAM_VRR   |                 |         | 17       |
| 55 |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )  |                 |         | 18       |
| 56 |       | [ tcv_UE_TxWinFull = FALSE ]  |                 |         | 19       |
| 57 |       | +lt_WinFullB(p_W)   |                 |         | 20       |
| 58 | TBF2  | [ tcv_UE_TxWinFull =TRUE ]  |                 | (F)     | 19       |
| 59 |       | [BIT_TO_INT(tcv_AMD_PDU.seqNum) > tcv_AM_VRR]   |                 | (F)     | 16.2     |
| 60 |       | [TRUE]  |                 |         |          |
|    |       | It_WinFullB( p_W: INTEGER )   |                 |         |          |
| 61 |       | [ (tcv_NumPDUsRx MOD p_W = 0) OR  |                 |         | 20       |
|    |       | ( tcv_NumPDUsRx = (2 * p_W) + (p_W / 2) ) ]   |                 |         |          |
| 62 |       | ( tcv_UE_TxWinFull := TRUE )  |                 |         | 5        |
| 63 |       | START t_NoUE_Tx( 2 * p_W * tcv_DefaultRB_TTI )  |                 |         | 6        |
| 64 | TBF3  | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]   |                 | (F)     | 6        |
| 65 | TBP2  | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]   |                 | (P)     | 6        |
| 66 |       | [TRUE]  |                 |         | 20       |
|    |       | lt_7_2_3_13Discard  |                 |         |          |
| 67 |       | START t_Guard( 300 )  |                 |         |          |
| 68 |       | +pr_GenericSetupProcedures  |                 |         |          |
| 69 |       | +lt_CtrlTxWindowTestD(<br>cds_RLC_InfoAM_7_2_3_13_Run1, 8)                                      |                 |         | 1        |
| 70 |       | ( tcv_RB_Established := FALSE )   |                 |         |          |
| 71 |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)  |                 |         |          |
| 72 |       | +lt_CtrlTxWindowTestD(<br>cds_RLC_InfoAM_7_2_3_13_Run2,<br>128)                                 |                 |         | 2        |
| 73 |       | +po_GenericCleanupProcedures  |                 |         |          |
|    |       | lt_CtrlTxWindowTestD( p_RLC_Info: RLC_Info; p_W: INTEGER )                                      |                 |         |          |
| 74 |       | +pr_RB_SetupAM7( p_RLC_Info )   |                 |         |          |
| 75 |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 ) * 8 )   |                 |         |          |
| 76 |       | ( tcv_NumPDUsTx := 0,<br>tcv_NumPDUsRx := 0,<br>tcv_UE_TxWinFull := FALSE,<br>tcv_TxOK :=TRUE ) |                 |         | 14       |
| 77 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )   |                 |         |          |
| 78 | TBS   | ( tcv_TestBody := TRUE )  |                 |         |          |
| 79 |       | START t_TTI   |                 |         | 3        |
| 80 |       | REPEAT lt_TxAndRxD( p_W )   |                 |         | 4        |
|    |       | UNTIL [ tcv_NumPDUsRx = p_W]  |                 |         |          |

|    |       | Test Case Dynamic                                 | Behaviour                             |         |          |
|----|-------|---|---------------------------------------|---------|----------|
| Nr | Label | Behaviour Description                             | Constraints Ref                       | Verdict | Comments |
| 81 |       | REPEAT lt_TxAndRxD( p_W )                         |                                       |         | 7        |
|    |       | UNTIL [ tcv_NumPDUsRx = 2 * p_W                   |                                       |         |          |
| 82 |       | REPEAT It_TxAndRxD( p_W )                         |                                       |         | 7.1      |
|    |       | UNTIL [ tcv_NumPDUsRx = 2 * p_W + p_W/2]          |                                       |         |          |
| 83 |       | REPEAT It_TxAndRxD( p_W )                         |                                       |         | 8        |
|    |       | UNTIL [ tcv_NumPDUsRx = 3 * p_W ]                 |                                       |         |          |
| 84 | TBP1  | (tcv_TestBody := FALSE )                          |                                       | (P)     |          |
| 85 |       | CANCEL t_TTI                                      |                                       |         |          |
| 86 |       | +po_OpenUE_TestLoop                               |                                       |         |          |
|    |       | lt_TxAndRxD( p_W: INTEGER )                       |                                       |         |          |
| 87 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )       | car_DataInd(<br>tsc_RB_AM_7_RLC,      |         | 9        |
|    |       |   | cr_AMD_LI_Data(                       |         |          |
|    |       |   | c_LIs1_7BitLI(                        |         |          |
|    |       |   | tcv_PayloadSize - 1),                 |         |          |
|    |       |   | tcv_AM_RxData.data))                  |         |          |
| 88 |       | +lt_UpdateVarsAndCheckTxWinFullD (p_W)            |                                       |         | 10       |
| 89 | TBF1  | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )       | car_DataInd(<br>tsc_RB_AM_7_RLC,      | (F)     | 11       |
|    |       |   | cr_AMD_Any)                           |         |          |
| 90 |       | +lt_UpdateVarsAndCheckTxWinFullD(p_W)             |                                       |         | 10       |
| 91 |       | TM ? RxStatus                                     | car_StatusInd(<br>tsc_RB_AM_7_RLC)    |         | 12       |
| 92 |       | ? TIMEOUT t_NoUE_Tx                               |                                       |         | 13       |
| 93 |       | ( tcv_UE_TxWinFull := FALSE,<br>tcv_TxOK :=TRUE ) |                                       |         | 13,      |
|    |       |   |                                       |         | 14       |
| 94 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )           |                                       |         | 21       |
| 95 |       | [ (tcv_NumPDUsTx <> 2 * p_W + 2) ]                |                                       |         | 13       |
| 96 |       | TM! TxStatus                                      | cas_StatusReq(                        |         | 13       |
|    |       |   | tsc_RB_AM_7_RLC,                      |         |          |
|    |       |   | cs_SF_Ack( tcv_AM_VRR                 |         |          |
|    |       |   | (2 * ( tcv_PayloadSize + 2<br>)) - 5) |         |          |
| 97 |       | [ tcv_NumPDUsTx = 2 * p_W + 2 ]                   | ,, -,                                 |         | 13       |

|            | Test Case Dynamic Behaviour |  |   |         |            |  |  |
|------------|-----------------------------|--|---|---------|------------|--|--|
| Nr         | Label                       | Behaviour Description  | Constraints Ref   | Verdict | Comments   |  |  |
| 98         |                             | TM ! TxStatus  | cas_StatusReq(  |         | 13.1       |  |  |
|            |                             |  | tsc_RB_AM_7_RLC,  |         |            |  |  |
|            |                             |  | cs_SF_Ack( tcv_AM_VRR   |         |            |  |  |
|            |                             |  | ),<br>(2 * ( tcv_PayloadSize + 2<br>)) - 5)                                       |         |            |  |  |
| 99         |                             | TM ! TxStatus  | cas_StatusReq(<br>tsc_RB_AM_7_RLC,  |         | 13.1       |  |  |
|            |                             |  | cs_SF_WindowSizeAndNoM<br>ore(p_W/2),<br>( 2 * ( tcv_PayloadSize + 2 )<br>) - 6 ) |         |            |  |  |
| 100        |                             | ? TIMEOUT t_TTI  |   |         | 3          |  |  |
| 101        |                             | [ tcv_NumPDUsTx < 3 * p_W + 4 ]  |   |         | 14         |  |  |
| 102        |                             | [ tcv_TxOK = TRUE ]  |   |         | 14         |  |  |
| 103        |                             | +ts_TxAM_7_PRBS(<br>tsc_P_Poll,<br>c_Lls1_7BitLl(<br>tcv_PayloadSize – 1 ),<br>tcv_PayloadSize – 1 ) |   |         | 15         |  |  |
| 104        |                             | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1   |   |         | 15         |  |  |
| 104        |                             | )  |   |         |            |  |  |
| 105        |                             | START t_TTI  |   |         | 3          |  |  |
| 106        |                             | [ (tcv_NumPDUsTx = p_W + 1)  |   |         | 14         |  |  |
|            |                             | OR (tcv_NumPDUsTx = 2 * p_W + 2) OR (tcv_NumPDUsTx = 2 * p_W + p_W/2 + 3) ]                          |   |         |            |  |  |
| 107        |                             | ( tcv_TxOK := FALSE )  |   |         | 14         |  |  |
| 108        |                             | [TRUE]   |   |         |            |  |  |
| 109        |                             | [ tcv_TxOK = FALSE ]   |   |         | 14         |  |  |
| 110        |                             | START t_TTI  |   |         | 3          |  |  |
| 111        |                             | [TRUE]   |   |         | 14         |  |  |
|            |                             | It_UpdateVarsAndCheckTxWinFullD( p_W: INTEGER )  |   |         |            |  |  |
| 112        |                             | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )  |   |         | 16         |  |  |
| 113        |                             | [BIT_TO_INT(tcv_AMD_PDU.seqNum) = tcv_AM_VRR]  |   | (F)     | 16.2       |  |  |
| 114        |                             | +ts_IncrementAM_VRR  |   |         | 17         |  |  |
| 115        |                             | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   |   |         | 18         |  |  |
| 116        |                             | [tcv_UE_TxWinFull = FALSE]   |   |         | 19         |  |  |
| 117        | TDEA                        | +lt_WinFullD(p_W)  |   | (5)     | 20         |  |  |
| 118<br>119 | TBF2                        | [tcv_UE_TxWinFull =TRUE]   |   | (F)     | 19<br>16.2 |  |  |
|            |                             | [BIT_TO_INT(tcv_AMD_PDU.seqNum) > tcv_AM_VRR]  [TRUE]  |   | (F)     | 10.2       |  |  |
| 120        |                             |  |   |         |            |  |  |
|            |                             | It_WinFullD( p_W: INTEGER )  |   |         |            |  |  |

|     | Test Case Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|-----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr  | Label                       | Behaviour Description                          | Constraints Ref | Verdict | Comments |  |  |  |  |
| 121 |                             | [ (tcv_NumPDUsRx MOD p_W = 0) OR               |                 |         | 20       |  |  |  |  |
|     |                             | ( tcv_NumPDUsRx = (2 * p_W) + (p_W / 2) ) ]    |                 |         |          |  |  |  |  |
| 122 |                             | ( tcv_UE_TxWinFull := TRUE )                   |                 |         | 5        |  |  |  |  |
| 123 |                             | START t_NoUE_Tx( 2 * p_W * tcv_DefaultRB_TTI ) |                 |         | 6        |  |  |  |  |
| 124 | TBF3                        | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]        |                 | (F)     | 6        |  |  |  |  |
| 125 | TBP2                        | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]          |                 | (P)     | 6        |  |  |  |  |
| 126 |                             | [TRUE]   |                 |         | 20       |  |  |  |  |

- Detailed Comments: 1. Run the procedure with the window size set to the default (8). Note that the parameter p\_W must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode. transmissionWindowSize in the parameter p\_RLC\_Info.
  - 2. Run the procedure with the window size set to 128.
  - 3. The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN. (Steps 2 - 7 in the expected sequence)
  - 4. Transmit p\_W + 1 PDUs and receive PDUs until p\_W PDUs have been received. At this stage,

the UE transmission window is expected to be full. (Steps 8 - 11 in the expected sequence)

- 5. tcv UE TxWinFull is set to TRUE. If data is received from the UE while the transmission window is full, a preliminary failure verdict is assigned. (Steps 13 and 19 in the expected sequence)
- 6. Check the poll bit in the received PDUs. Start the timer t\_NoUE\_Tx. The SS will not send a STATUS PDU acknowledging receipt of any PDUs until this timer expires, and the UE should not transmit any further PDUs until it receives a STATUS PDU acknowledging receipt of at least one PDU, and it's transmission window is moved. Note that last activation is superfluous, timer will be cancelled as test case finishes.
- 7. Transmit 2 \* p\_W + 2 PDUs and receive PDUs until 2 \* p\_W PDUs have been received. At this stage, the UE transmission window is expected to be full.
- 7.1 Transmit 2 \* p\_W + p\_W/2 + 2 PDUs and receive PDUs until 2 \* p\_W + p\_W/2 PDUs have

received. At this stage, the UE transmission window is expected to be full.

- 8. Transmit 3 \* p\_W + 4 PDUs and receive PDUs until 3 \* p\_W PDUs have been received. At this stage, the UE transmission window is expected to be full.
- 9. Receive the expected PDU from the UE.
- 10. Update the VR(R) state variable, and tcv\_AM\_RxData, and check if the previous PDU was sent when the UE transmission window was full.
- 11. If any other data PDU is received, a preliminary failure verdict is assigned.
- 12. STATUS PDUs received from the UE are ignored.
- 13. When the timer t\_NoUE\_Tx expires, a STATUS PDU is sent to the UE

### Detailed Comments: ...

acknowledging all PDUs received so far. At this point, the UE transmission window will be updated, and the UE can continue to transmit PDUs. tcv\_UE\_TxWinFull is set to FALSE to reflect this. In case 2\*p\_W PDUs have been received from the UE, the window size is reduced to p\_W/2. While timer t\_NoUE\_Tx is running STATUS PDUs – but no Data PDUs –

may be received and the SS may continue sending. Therefore at timeout of t\_NoUE\_Tx

2\*p\_W + 2 or more data PDUs may have been sent.

- 13.1 ACK and WINDOW SIZE are sent in 2 STATUS PDUs to avoid inconsistencies in case the window size is being reduced.
- 14. Keep transmitting PDUs until 3 \* p\_W PDUs have been transmitted. Once the last PDU has been transmitted, the timer t\_TTI is not restarted.

The test purpose asks the SS to stop transmission as soon as the UEs tx window has been filled and

at least one more PDU has been sent. This is achieved using tcv\_TxOK which is toggled as required.

- 15. Send the next PDU, and increment tcv\_NumPDUsTx.
- 16. Initialise tcv\_AM\_RxData with the next PDU expected to be received.

  NOTE: this step does not yet account for PDUs possibly discarded by the uplink AM entity !!!
- 16.1 Check the PDU sequence number equals teh VR(R) state variable.
- 16.2 If the sequence number is not a repeat a preliminary failure verdict is assigned.
- 17. Update the VR(R) state variable.
- 18. Increment tcv\_NumPDUsRx
- 19. If a PDU is received when tcv\_UE\_TxWinFull is TRUE, a preliminary failure verdict is assigned.
- 20. If the window is full and another PDU is received, a FAIL is produced.
- 21. Get PRBS corresponding to the discarded PDU and do not make use of it to only get the pointer into the PRBS correct

Test Case Name : tc\_7\_2\_3\_14

**Group** : RLC/AcknowledgedMode/Windowing/

Purpose : To verify that the UE discards PDUs with sequence numbers outside the upper boundary of the

receive window.

Configuration :

Default : RLC\_Default

Comments : References: TS 25.32, Clause 11.3.4.2.

Selection Ref :

**Description**: Control of Receive Window

| Nr | Label | Behaviour Description   | Constraints Ref                  | Verdict | Comments |
|----|-------|---|----------------------------------|---------|----------|
| 1  |       | START t_Guard( 300 )  |                                  |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                                  |         |          |
| 3  |       | +lt_CtrlRxWindowTest(<br>cds_RLC_InfoAM_7_2_3_14_Run1, 8)                   |                                  |         | 1        |
| 4  |       | ( tcv_RB_Established := FALSE )   |                                  |         |          |
| 5  |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)  |                                  |         |          |
| 6  |       | +lt_CtrlRxWindowTest(<br>cds_RLC_InfoAM_7_2_3_14_Run2,<br>128)              |                                  |         | 2        |
| 7  |       | +po_GenericCleanupProcedures  |                                  |         |          |
|    |       | It_CtrlRxWindowTest( p_RLC_Info: RLC_Info; p_W: INTEGER )                   |                                  |         |          |
| 8  |       | +pr_RB_SetupAM7( p_RLC_Info )   |                                  |         |          |
| 9  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 ) * 8 )                         |                                  |         |          |
| 10 |       | ( tcv_SDU_Num := 1,<br>tcv_NumPDUsRx := 0,<br>tcv_StatusReceived := FALSE ) |                                  |         | 3        |
| 11 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )                                     |                                  |         |          |
| 12 | TBS   | ( tcv_TestBody := TRUE )  |                                  |         |          |
| 13 |       | START t_TTI   |                                  |         | 4        |
| 14 |       | REPEAT It_TxAndRx( p_W)   |                                  |         |          |
|    |       | UNTIL [ tcv_NumPDUsRx = p_W + 1 ]   |                                  |         |          |
| 15 | TBP1  | (tcv_TestBody := FALSE )  |                                  | (P)     |          |
| 16 |       | CANCEL t_TTI  |                                  |         |          |
| 17 |       | +po_OpenUE_TestLoop   |                                  |         |          |
|    |       | It_TxAndRx( p_W: INTEGER )  |                                  |         |          |
| 18 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )                                 | car_DataInd(<br>tsc_RB_AM_7_RLC, |         | 5        |
|    |       |   | cr_AMD_LI_Data(                  |         |          |
|    |       |   | c_LIs1_7BitLI(                   |         |          |
|    |       |   | tcv_PayloadSize - 1),            |         |          |
|    |       |   | tcv_AM_RxData.data))             |         |          |
| 19 |       | +lt_UpdateVars( p_W)  | ,,                               |         | 6        |
| 20 | TBF1  | TM ? RxAMD<br>(tcv_AMD_PDU := RxAMD.data)                                   | car_DataInd(<br>tsc_RB_AM_7_RLC, | (F)     | 7        |
|    |       |   | cr_AMD_Any)                      |         |          |
| 21 |       | +lt_UpdateVars( p_W)  | _                                |         | 6        |

|    |       | Test Case Dynamic  | Behaviour                                   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref                             | Verdict | Comments |
| 22 |       | TM ? RxStatus  | car_StatusInd(                              |         | 8        |
|    |       | ( tcv_StatusPDU := RxStatus.data )   | tsc_RB_AM_7_RLC)                            |         |          |
| 23 |       | +lt_CheckStatus( p_W )   | ISC_ND_AW_7_NEO)                            |         |          |
| 24 |       | (tcv_StatusReceived := TRUE)   |   |         |          |
| 25 |       | ? TIMEOUT t_TTI  |   |         | 4        |
| 26 |       | <br>[ tcv_StatusToBeSent = TRUE ]  |   |         | 18a      |
| 27 |       | TM ! TxStatus  | cas_StatusReq(                              |         | 18       |
|    |       |  | tsc_RB_AM_7_RLC,                            |         |          |
|    |       |  | cs_SF_Ack( tcv_AM_VRR                       |         |          |
|    |       |  | ),<br>(2 * ( tcv_PayloadSize + 2<br>)) - 5) |         |          |
| 28 |       | ( tcv_StatusToBeSent := FALSE )  |   |         | 18a      |
| 29 |       | START t_TTI  |   |         | 4        |
| 30 |       | [ tcv_StatusToBeSent = FALSE ]   |   |         | 18a      |
| 31 |       | +lt_PrepareForTx( p_W )  |   |         | 9        |
| 32 |       | [ tcv_TxOK ]   |   |         |          |
| 33 |       | +ts_TxAM_7_PRBS(<br>tcv_Poll,<br>c_Lls1_7BitLI(<br>tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1) |   |         |          |
| 34 |       | ( tcv_SDU_Num := tcv_SDU_Num + 1 )   |   |         |          |
| 35 |       | START t_TTI  |   |         | 4        |
| 36 |       | [TRUE]   |   |         | 10       |
| 37 |       | START t_TTI  |   |         | 4        |
|    |       | It_PrepareForTx( p_W : INTEGER )   |   |         |          |
| 38 |       | ( tcv_TxOK := TRUE, tcv_Poll := tsc_P_NoPoll )   |   |         |          |
| 39 |       | [ tcv_SDU_Num < p_W ]  |   |         | 12       |
| 40 |       | [tcv_SDU_Num = p_W]  |   |         | 13       |
| 41 |       | ( tcv_Poll := tsc_P_Poll )   |   |         |          |
| 42 |       | [tcv_SDU_Num = p_W + 1]  |   |         | 14       |
| 43 |       | [tcv_StatusReceived]   |   |         |          |
| 44 |       | ( tcv_StatusReceived := FALSE )  |   |         | 19       |
| 45 |       | ( tcv_Poll := tsc_P_Poll )   |   |         | 19       |
| 46 |       | ( tcv_AM_VTS := (2 * p_W) + 1 )  |   |         | 19       |
| 47 |       | ( tcv_TempPRBS_Pos :=<br>tcv_TxPRBS_Pos )  |   |         | 11       |
| 48 |       | [ NOT tcv_StatusReceived ]   |   |         |          |
| 49 |       | (tcv_TxOK := FALSE)  |   |         |          |
| 50 |       | [tcv_SDU_Num = p_W + 2]  |   |         | 15       |
| 51 |       | [tcv_StatusReceived]   |   |         |          |
| 52 |       | ( tcv_AM_VTS := p_W,<br>tcv_TxPRBS_Pos := tcv_TempPRBS_Pos )                                     |   |         | 20       |
| 53 |       | [ NOT tcv_StatusReceived ]   |   |         |          |
| 54 |       | ( tcv_TxOK := FALSE )  |   |         |          |
| 55 |       | [TRUE]   |   |         | 16       |

|    |       | Test Case Dynamic  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 56 |       | ( tcv_TxOK := FALSE )  |                 |         |          |
|    |       | It_UpdateVars( p_W: INTEGER )  |                 |         |          |
| 57 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )  |                 |         | 6        |
| 58 |       | +ts_IncrementAM_VRR  |                 |         | 6        |
| 59 |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   |                 |         | 6        |
| 60 |       | +lt_ChkPollBitAndStatus(p_W)   |                 |         | 6        |
|    |       | lt_ChkPollBitAndStatus( p_W: INTEGER )   |                 |         |          |
| 61 |       | [ tcv_NumPDUsRx MOD p_W = 0 ]  |                 |         | 17       |
| 62 | TBF2  | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |                 | (F)     | 17       |
| 63 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |                 |         | 18       |
| 64 |       | ( tcv_StatusToBeSent := TRUE )   |                 |         | 18a      |
| 65 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |                 |         | 18       |
| 66 |       | ( tcv_StatusToBeSent := TRUE )   |                 |         | 18a      |
| 67 |       | [TRUE]   |                 |         | 17       |
|    |       | It_CheckStatus( p_W: INTEGER )   |                 |         |          |
| 68 |       | ( tcv_NumStatusRx := tcv_NumStatusRx + 1)  |                 |         |          |
| 69 |       | [ tcv_NumStatusRx = 2 ]  |                 |         |          |
| 70 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(   |                 |         |          |
|    |       | cr_SUFI_Params(<br>INT_TO_BIT(2*p_W, tsc_AM_SN_Size),                                  |                 |         |          |
|    |       | INT_TO_BIT(2*p_W, tsc_AM_SN_Size),   |                 |         |          |
|    |       | *,     *,     *,     *,     *,     *,     *),     tcv_StatusPDU.superFieldsAndPadRx )) |                 |         |          |
| 71 | TBF3  | [ tcv_ResAndSUFIs.result = TRUE ]  |                 | (F)     |          |
| 72 |       | +lt_CheckStatusNAK_Loop( p_W )   |                 |         |          |
| 73 | TBP3  | [ tcv_ResAndSUFIs.result = FALSE ]   |                 | (P)     |          |
| 74 |       | +lt_CheckStatusNAK_Loop( p_W )   |                 |         |          |
| 75 |       | [TRUE]   |                 |         |          |
|    |       | lt_CheckStatusNAK_Loop( p_W: INTEGER )   |                 |         |          |
| 76 |       | ( tcv_Count := p_W)  |                 |         |          |
| 77 |       | REPEAT It_CheckStatusNAK(p_W, tcv_Count) UNTIL [(tcv_Count = 2*p_W)]                   |                 |         |          |
|    |       | lt_CheckStatusNAK( p_W, p_NAK: INTEGER )   |                 |         |          |

|    | Test Case Dynamic Behaviour |   |                 |         |          |  |  |  |  |
|----|-----------------------------|---|-----------------|---------|----------|--|--|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |  |
| 78 |                             | ( tcv_ResAndSUFIs := o_SUFI_Handler(  |                 |         |          |  |  |  |  |
|    |                             | cr_SUFI_Params(<br>INT_TO_BIT(0, tsc_AM_SN_Size),<br>INT_TO_BIT((2*p_W - 1), tsc_AM_SN_Size), |                 |         |          |  |  |  |  |
|    |                             | *,<br>*,<br>INT_TO_BIT(p_NAK, tsc_AM_SN_Size),  |                 |         |          |  |  |  |  |
|    |                             | *, *), tcv_StatusPDU.superFieldsAndPadRx ))   |                 |         |          |  |  |  |  |
| 79 |                             | ( tcv_Count := tcv_Count + 1)   |                 |         |          |  |  |  |  |
| 80 | TBF4                        | [ tcv_ResAndSUFIs.result = TRUE ]   |                 | (F)     |          |  |  |  |  |
| 81 | TBP4                        | [ tcv_ResAndSUFIs.result = FALSE ]  |                 | (P)     |          |  |  |  |  |

Detailed Comments: 1. Run the procedure with the window size set to the default (8). Note that the parameter p\_W must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.

transmissionWindowSize in the parameter p\_RLC\_Info.

- 2. Run the procedure with the window size set to 128.
- 3. Initialise all counters and RLC state variables for this execution of the procedure.
- 4. The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN.
- 5. Receive the expected PDUs from the UE.
- 6. Initialise tcv AM RxData with the next PDU expected to be received, and increment VR(R) and tcv\_NumPDUsRx.
- 7. If any other data PDU is received, a preliminary failure verdict is assigned.
- 8. Wait until a STATUS PDU has been received before transmitting SDU W + 1
- 9. Set the following flags according to current SDU number:
  - tcv\_TxOK
  - tcv Poll

Store or restore the current Tx PRBS position, and update tcv\_AM\_VTS if required. See detailed comments 11 - 16 for more information.

10. tcv\_TxOK may be FALSE if a STATUS PDU has not been received yet, and the SS

is waiting to send SDU number W + 1 or W+ 2, or if all W + 2 SDUs have been transmitted.

- 11. If the current SDU number is W + 1, note the current Tx PRBS position, so that it can be reset later, when SDU W + 2 is sent.
- 12. For all other SDU numbers < W, use the default flag settings. (tcv\_TxOK = TRUE, and tcv\_Poll = tsc\_P\_NoPoll)
- 13. Set the poll bit for SDU number W.
- 14. Wait until the flag tcv\_StatusReceived is TRUE before transmitting SDU

# Detailed Comments : ...

number W + 1.

See also detailed comment 8.

- 15. Wait until the flag tcv\_StatusReceived is TRUE before transmitting SDU number W + 2. Reset tcv\_TxPRBS\_Pos, and tcv\_AM\_VTS for retransmission of SDU W + 1.
- 16. For any other values of SDU number, do not transmit further SDUs.
- 17. If tcv\_NumPDUsRx equals n \* p\_W the PollBit is expected to be set by the UE.
- 18. SS sends STATUS upon PollBit from the UE.
- 18a. If a STATUS PDU is to be sent upon receipt of a PollBit this is registered in variable tcv\_StatusToBeSent.

When the TTI has elapsed the variable is used to decide whether a STATUS PDU or a Data PDU is to be issued.

- 19. Reset STATUS received flag to control receipt of the 2nd STATUS expected, set PollBit, set incorrect SN (=2W+1)
- 20. Set correct SN (=W), restablish Tx PRBS position.

Test Case Name : tc\_7\_2\_3\_15

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : 1. To verify that a poll is performed when only one PDU is available for

transmission, and the poll prohibit timer function is not used.

2. To verify that a poll is performed when only one PDU is available for transmission, and the poll prohibit timer function is used, but inactive.

Configuration :

Default : RLC\_Default

**Comments**: References:TS 25.322 Clause 11.3.2.1.1, 9.7.1, 11.3.2.

Selection Ref :

**Description**: Polling for status / Last PDU in transmission queue

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +lt_PollLastPU_TxTest(<br>cds_RLC_InfoAM_7_2_3_15_Run1 )   |                 |         |          |
| 4  |       | ( tcv_RB_Established := FALSE )  |                 |         |          |
| 5  |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)   |                 |         |          |
| 6  |       | +lt_PollLastPU_TxTest(<br>cds_RLC_InfoAM_7_2_3_15_Run2)  |                 |         |          |
| 7  |       | +po_GenericCleanupProcedures   |                 |         |          |
|    |       | lt_PollLastPU_TxTest( p_RLC_Info: RLC_Info )   |                 |         |          |
| 8  |       | +pr_RB_SetupAM7( p_RLC_Info )  |                 |         |          |
| 9  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize * 2 –<br>1 ) * 8 )   |                 |         |          |
| 10 |       | <pre>( tcv_StatusReceived := FALSE,<br/>tcv_NumPDUsReceived := 0,<br/>tcv_OtherReceived := FALSE )</pre> |                 |         |          |
| 11 | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 12 |       | <pre>+ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )</pre>                                  |                 |         | 1        |
| 13 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )   |                 |         | 2        |
| 14 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )   |                 |         | 3        |
| 15 |       | +ts_TxAM_7_PRBS( tsc_P_Poll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )           |                 |         | 4        |
| 16 |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize )   |                 |         | 5        |
| 17 |       | REPEAT It_RxPDUs UNTIL   |                 |         | 6        |
|    |       | [ ( ( tcv_StatusReceived = TRUE ) AND  |                 |         |          |
|    |       | ( tcv_NumPDUsReceived = 2 ) )<br>OR  |                 |         |          |
|    |       | ( tcv_OtherReceived = TRUE ) ]   |                 |         |          |
| 18 |       | (tcv_TestBody := FALSE )   |                 |         |          |
| 19 |       | +po_OpenUE_TestLoop  |                 |         |          |
|    |       | lt_RxPDUs  |                 |         |          |

|          |       | Test Case Dynam  | ic Behaviour                               |         |          |
|----------|-------|--|--|---------|----------|
| Nr       | Label | Behaviour Description  | Constraints Ref                            | Verdict | Comments |
| 20       | TBP1  | TM ? RxAMD [ tcv_NumPDUsReceived = 0 ] ( tcv_NumPDUsReceived := 1 )                                      | car_DataInd(<br>tsc_RB_AM_7_RLC,           | (P)     |          |
|          |       |  | cr_AMD_DataNoPoll(<br>tcv_AM_RxData.data)) |         |          |
| 21<br>22 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 ) TM ? RxAMD [tcv_NumPDUsReceived = 1 ] (tcv_NumPDUsReceived := 2, | car_DataInd(<br>tsc_RB_AM_7_RLC,           |         | 7        |
|          |       | tcv_AMD_PDU := RxAMD.data )  | cr_AMD_LI_Data(                            |         |          |
|          |       |  | c_Lls1_7BitLl(<br>tcv_PayloadSize – 1 ),   |         |          |
| 22       | TBP2  | [Any AMD DDI   nolling Did too D Doll ]  | tcv_AM_RxData.data))                       | (D)     |          |
| 23<br>24 | IBPZ  | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ] TM ! TxStatus  | cas_StatusReq(                             | (P)     | 8<br>11  |
|          |       |  | tsc_RB_AM_7_RLC,                           |         |          |
|          |       |  | cs_SF_Ack( 2),                             |         |          |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )   |         |          |
| 25<br>26 | TBF1  | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ] TM ! TxStatus  | cas_StatusReq(                             | (F)     | 8<br>11  |
|          |       |  | tsc_RB_AM_7_RLC,                           |         |          |
|          |       |  | cs_SF_Ack( 2),                             |         |          |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) – 5 )   |         |          |
| 27       |       | TM ? RxStatus [ tcv_StatusReceived = FALSE ]   | car_StatusInd(                             |         |          |
| 28       |       | ( tcv_StatusPDU := RxStatus.data ) +It_CheckStatusPDU  | tsc_RB_AM_7_RLC)                           |         |          |
| 29       | TBF3  | TM ? RxAMD<br>( tcv_OtherReceived := TRUE )  | car_DataInd(<br>tsc_RB_AM_7_RLC,           | (F)     | 10       |
|          |       |  | cr_AMD_Any )                               |         |          |
| 30       | TBF4  | TM ? RxStatus<br>( tcv_OtherReceived := TRUE )   | car_StatusInd(                             | (F)     | 10       |
|          |       | lt_CheckStatusPDU  | tsc_RB_AM_7_RLC)                           |         |          |
| 31       |       | ( tcv_StatusReceived := TRUE )   |  |         |          |
| 32       |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(   |  |         | 9        |
|          |       | cr_SUFI_Params(<br>INT_TO_BIT(0, tsc_AM_SN_Size),<br>INT_TO_BIT(3, tsc_AM_SN_Size),<br>*, *              |  |         |          |
|          |       | , *<br>, *<br>, *<br>, , , , , , , , , , , , , ,   |  |         |          |
|          |       | *),<br>tcv_StatusPDU.superFieldsAndPadRx ))  |  |         |          |

|    | Test Case Dynamic Behaviour |                                    |                 |         |          |  |  |  |
|----|-----------------------------|------------------------------------|-----------------|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description              | Constraints Ref | Verdict | Comments |  |  |  |
| 33 | TBP3                        | [ tcv_ResAndSUFIs.result = TRUE ]  |                 | (P)     | 9        |  |  |  |
| 34 | TBF2                        | [ tcv_ResAndSUFIs.result = FALSE ] |                 | (F)     | 9        |  |  |  |

- **Detailed Comments**: 1. The first AM\_7\_PayloadSize octets of SDU 1. (Step 2 in the expected sequence)
  - 2. The next AM\_7\_PayloadSize octets of SDU 1. (Step 3 in the expected sequence)
  - 3. The next AM\_7\_PayloadSize octets of SDU 1. (Step 4 in the expected sequence)
  - 4. The last AM\_7\_PayloadSize 1 octets of SDU 1. The poll bit is set, and the LI indicates the location of the last octet in SDU 1. (Step 5 in the expected sequence)
  - 5. Initialise tcv\_AM\_RxData with the first AM\_7\_PayloadSize octets expected in looped back SDU 1.
  - 6. Receive the looped back data, and a STATUS PDU. The variables tcv\_StatusReceived, and tcv\_NumPDUsReceived are used as flags to ensure that the correct information has been received. (Steps 6, 7, and 8 in the expected sequence)
  - 7. Initialise tcv\_AM\_RxData with the last 15 octets expected in looped back SDU 1
  - 8. Ensure that the polling bit is set correctly.
  - 9. Check that the received STATUS PDU acknowledges the correct PDUs.
  - 10. Reception of other unexpected events is handled within the test case, rather than in the default behaviour so that tcv\_OtherReceived can be updated appropriately
  - 11. Send a STATUS PDU acknowleding the PDUs sent by the UE

Test Case Name : tc\_7\_2\_3\_16

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : 1. To verify that a poll is performed when only one PDU is available for retransmission, and the poll

prohibit timer function is not used.

2. To verify that a poll is performed when only one PDU is available for retransmission, and the poll

prohibit timer function is used, but inactive.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 11.3.2.1.1, 9.7.1, 11.3.2.

Selection Ref :

**Description**: Polling for status / Last PDU in retransmission queue

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +lt_PollLastPU_ReTxTest(<br>cds_RLC_InfoAM_7_2_3_16_Run1)                                      |                 |         |          |
| 4  |       | ( tcv_RB_Established := FALSE )  |                 |         |          |
| 5  |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)   |                 |         |          |
| 6  |       | +lt_PollLastPU_ReTxTest( cds_RLC_InfoAM_7_2_3_16_Run2)   |                 |         |          |
| 7  |       | +po_GenericCleanupProcedures   |                 |         |          |
|    |       | It_PollLastPU_ReTxTest( p_RLC_Info: RLC_Info )   |                 |         |          |
| 8  |       | +pr_RB_SetupAM7( p_RLC_Info )  |                 |         |          |
| 9  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize * 2 – 1 ) * 8 )  |                 |         |          |
| 10 |       | ( tcv_StatusReceived := FALSE,<br>tcv_NumPDUsReceived := 0,<br>tcv_OtherReceived := FALSE )    |                 |         |          |
| 11 | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 12 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )                                   |                 |         | 1        |
| 13 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )                                   |                 |         | 2        |
| 14 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LIsEmpty, tcv_PayloadSize )                                   |                 |         | 3        |
| 15 |       | +ts_TxAM_7_PRBS( tsc_P_Poll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 ) |                 |         | 4        |
| 16 |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize)  |                 |         | 5        |
| 17 |       | REPEAT It_RxPDUs UNTIL   |                 |         | 6        |
|    |       | [ ( ( tcv_StatusReceived = TRUE ) AND  |                 |         |          |
|    |       | OR   |                 |         |          |
|    |       | ( tcv_OtherReceived = TRUE ) ]   |                 |         |          |

|    |       | Test Case Dynamic   | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
| 18 |       | TM ! TxStatus   | cas_StatusReq(   |         | 7        |
|    |       |   | tsc_RB_AM_7_RLC,                                       |         |          |
|    |       |   | cs_SF_List1AndACK(                                     |         |          |
|    |       |   | c_SNiLi( 0, 0 ), 2 ),                                  |         |          |
|    |       |   | ( 2 * ( tcv_PayloadSize + 2<br>) ) – 11 )              |         |          |
| 19 |       | ( tcv_RxPRBS_Pos := 0,  |  |         | 8        |
|    |       | tcv_StatusReceived := TRUE,   |  |         |          |
|    |       | tcv_NumPDUsReceived := 0,   |  |         |          |
|    |       | tcv_OtherReceived := FALSE)   |  |         |          |
| 20 |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize)   |  |         | 9        |
| 21 | TBP5  | TM ? RxAMD<br>( tcv_AMD_PDU :=<br>RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,                       | (P)     | 10       |
|    |       |   | cr_AMD_Data(<br>tcv_AM_RxData.data))                   |         |          |
| 22 | ТВР3  | [<br>tcv_AMD_PDU.pollingBit<br>= tsc_P_Poll ]   | ,,   | (P)     | 11       |
| 23 |       | +lt_TxStatusEtc   |  |         |          |
| 24 | TBF1  | [<br>tcv_AMD_PDU.pollingBit<br>= tsc_P_NoPoll ]   |  | (F)     | 11       |
| 25 |       | +lt_TxStatusEtc   |  |         |          |
|    |       | lt_TxStatusEtc  |  |         | <b>.</b> |
| 26 |       | TM!TxStatus   | cas_StatusReq(   |         | 14       |
|    |       |   | tsc_RB_AM_7_RLC,                                       |         |          |
|    |       |   | cs_SF_Ack( 2),   |         |          |
|    |       |   | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )               |         |          |
| 27 | TBE   | (tcv_TestBody := FALSE )  |  |         |          |
| 28 |       | +po_OpenUE_TestLoop   |  |         |          |
| 29 | TBP1  | It_RxPDUs  TM ? RxAMD [ tcv_NumPDUsReceived = 0 ] ( tcv_NumPDUsReceived := 1,     tcv_AMD_PDU := RxAMD.data ) | car_DataInd(<br>tsc_RB_AM_7_RLC,<br>cr_AMD_DataNoPoll( | (P)     |          |
| 20 |       | LAS CONDUMN DDDC/4711 Double 101 1 1  | tcv_AM_RxData.data))                                   |         |          |
| 30 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize - 1 )   |  |         |          |

|    |       | Test Case Dynamic  | Behaviour  |         |          |
|----|-------|--|--|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
| 31 | TBP2  | TM ? RxAMD [ tcv_NumPDUsReceived = 1 ] ( tcv_NumPDUsReceived := 2,   tcv_AMD_PDU := RxAMD.data )       | car_DataInd( tsc_RB_AM_7_RLC,  cr_AMD_LI_Data(  c_LIs1_7BitLI( tcv_PayloadSize - 1), | (P)     |          |
|    |       |  | tcv_AM_RxData.data))   |         |          |
| 32 | TBP4  | TM ? RxStatus [ tcv_StatusReceived = FALSE ] ( tcv_StatusReceived := TRUE, tcv_StatusPDU :=            | car_StatusInd( tsc_RB_AM_7_RLC)  | (P)     |          |
|    |       | RxStatus.data)   |  |         |          |
| 33 |       | +lt_CheckStatusPDU   |  |         |          |
| 34 | TBF3  | TM ? RxAMD<br>( tcv_OtherReceived := TRUE )  | car_DataInd(<br>tsc_RB_AM_7_RLC,   | (F)     | 13       |
|    |       |  | cr_AMD_Any)  |         |          |
| 35 | TBF4  | TM ? RxStatus  | car_StatusInd(   | (F)     | 13       |
|    |       | ( tcv_OtherReceived := TRUE )  | t DD AM 7 DLO)   |         |          |
|    |       |  | tsc_RB_AM_7_RLC)   |         |          |
|    |       | It_CheckStatusPDU  |  |         |          |
| 36 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(   |  |         | 12       |
|    |       | cr_SUFI_Params( INT_TO_BIT(0, tsc_AM_SN_Size), INT_TO_BIT(3, tsc_AM_SN_Size),  *,  *,  *,  *,  *,  *), |  |         |          |
| 27 | TDD4  | tcv_StatusPDU.superFieldsAndPadRx ))   |  | (D)     |          |
| 37 | TBP4  | [ tcv_ResAndSUFIs.result = TRUE ]  |  | (P)     | 12       |
| 38 | TBF2  | [ tcv_ResAndSUFIs.result = FALSE ]   |  | (F)     | 12       |

- **Detailed Comments**: 1. The first AM\_7\_PayloadSize octets of SDU 1. (Step 2 in the expected sequence)
  - 2. The next AM\_7\_PayloadSize octets of SDU 1. (Step 3 in the expected sequence)
  - 3. The next AM\_7\_PayloadSize octets of SDU 1. (Step 4 in the expected sequence)
  - 4. The last AM\_7\_PayloadSize 1 octets of SDU 1. The poll bit is set, and the LI indicates the location of the last octet in SDU 1. (Step 5 in the expected sequence)
  - 5. Initialise tcv\_AM\_RxData with the first AM\_7\_PayloadSize octets expected in looped back SDU 1.
  - 6. Receive the looped back data, and a STATUS PDU. The variables tcv\_StatusReceived, and tcv\_NumPDUsReceived are used as flags to ensure that the correct information has been received. (Steps 6, 7, and 8 in the expected sequence)
  - 7. Negatively acknowledge PDU with sequence number 0. (Step 9 in the expected sequence)

## Detailed Comments : ...

- Reset flags and PRBS position for re–reception of PDUs 0 and 1. tcv\_StatusReceived is set to TRUE since a second STATUS PDU should not be received.
- $9.\ Initialise\ tcv\_AM\_RxData\ with\ the\ first\ AM\_7\_PayloadSize\ octets\ expected\ in\ looped\ back$

SDU 1.

 Receive the retransmission of the looped back data. STATUS should not be received.

(Step 11 in the expected sequence)

- 11. Ensure that the polling bit is set correctly.
- 12 Verify that the STATUS PDU acknowledges the correct PDUs.
- 13. Reception of other unexpected events is handled within the test case, rather than in the default behaviour so that tcv\_OtherReceived can be updated appropriately.
- 14. Send a STATUS PDU acknowleding the PDUs sent by the UE (Step 12 in the expected sequence)

Test Case Name : tc\_7\_2\_3\_17

**Group** : RLC/AcknowledgedMode/Polling/

**Purpose**: 1. To verify that a poll is performed when VT(PDU) reaches Poll\_PDU.

2. To verify VT(PDU) is incremented for both new and retransmitted PDUs.

Configuration:

Default : RLC\_Default

**Comments**: References: TS 25.322 Clauses 9. 4, 9.6 and 11.3.2.1.1, 9.7.1

Selection Ref :

**Description**: Polling for status / Poll every Poll\_PDU PDUs

| Nr | Label | Behaviour Description  | Constraints Ref                         | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | START t_Guard( 300 )   |   |         |          |
| 2  |       | +pr_GenericSetupProcedures   |   |         |          |
| 3  |       | +lt_PollEveryPollPU_Test( cds_RLC_InfoAM_7_2_3_17, 4)  |   |         | 1        |
| 4  |       | +po_GenericCleanupProcedures   |   |         |          |
|    |       | lt_PollEveryPollPU_Test( p_RLC_Info: RLC_Info; p_P: INTEGER )  |   |         |          |
| 5  |       | +pr_RB_SetupAM7( p_RLC_Info )  |   |         |          |
| 6  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 ) * 8 )  |   |         |          |
| 7  |       | <pre>( tcv_NumPDUsTx := 0,<br/>tcv_NumPDUsRx := 0,<br/>tcv_CheckNextUplinkSN_Is0 := TRUE,<br/>tcv_NumPDUsReceived := 0 )</pre> |   |         |          |
| 8  | TBS   | ( tcv_TestBody := TRUE )   |   |         |          |
| 9  |       | START t_TTI  |   |         | 2        |
| 10 |       | REPEAT It_TxAndRx( $p_P$ ) UNTIL   |   |         | 3        |
|    |       | [ ( tcv_NumPDUsTx = ( $3 * p_P - 2$ ) ) AND  |   |         |          |
|    |       | ( tcv_NumPDUsRx = ( 3 * p_P ) ) ]  |   |         |          |
| 11 | TBE   | ( tcv_TestBody := FALSE )  |   |         |          |
| 12 |       | CANCEL t_TTI   |   |         |          |
| 13 |       | +po_OpenUE_TestLoop  |   |         |          |
|    |       | It_TxAndRx( p_P: INTEGER )   |   |         |          |
| 14 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,        |         | 4        |
|    |       |  | cr_AMD_LI_Data(                         |         |          |
|    |       |  | c_Lls1_7BitLl(<br>tcv_PayloadSize - 1), |         |          |
|    |       |  | *))                                     |         |          |
| 15 |       | +lt_CheckPollBitAndUpdateVars( p_P )   |   |         | 4        |
| 16 |       | ? TIMEOUT t_TTI  |   |         | 2        |
| 17 |       | _<br>[ tcv_NumPDUsTx < 3 * p_P - 2 ]   |   |         | 5        |
| 18 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,   |   |         | 5        |
|    |       | c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )   |   |         |          |
| 19 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1 )   |   |         | 5        |
| 20 |       | START t_TTI  |   |         | 2        |
| 21 |       | [TRUE]   |   |         | 5        |

|          |       | Test Case Dynamic  | Behaviour                                 |         |          |
|----------|-------|--|---|---------|----------|
| Nr       | Label | Behaviour Description  | Constraints Ref                           | Verdict | Comments |
|          |       | lt_CheckPollBitAndUpdateVars( p_P: INTEGER )   |   |         |          |
| 22       |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   |   |         | 4        |
| 23       |       | +lt_CheckSeqNum  |   |         |          |
| 24       |       | +lt_UpdateVRH_AndCheckPollBit( p_P )   |   |         | 6        |
| 25       |       | +ts_IncrementAM_VRR  |   |         | 4        |
|          |       | It_UpdateVRH_AndCheckPollBit( p_P: INTEGER )   |   |         |          |
| 26       |       | +ts_UpdateVRH( tcv_AMD_PDU )   |   |         |          |
| 27       |       | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |   |         | 6        |
| 28       | TBF2  | [ (tcv_NumPDUsRx = p_P) OR<br>(tcv_NumPDUsRx = 2*p_P) OR<br>(tcv_NumPDUsRx = 3*p_P)] |   | (F)     | 7        |
| 29       | TBP4  | [TRUE]   |   | (P)     | 7        |
| 30       |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |   |         | 6        |
| 31       | TBP1  | [ tcv_NumPDUsRx = p_P ]  |   | (P)     | 7        |
| 32       |       | TM ! TxStatus  | cas_StatusReq(                            |         | 7        |
|          |       |  | tsc_RB_AM_7_RLC,                          |         |          |
|          |       |  | cs_SF_Nack0And1(                          |         |          |
|          |       |  | tcv_AM_VRH),                              |         |          |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 11 ) |         |          |
| 33<br>34 | TDDO  | (tcv_CheckNextUplinkSN_ls0 := TRUE)  |   | (D)     | _        |
| 35       | TBP2  | [ tcv_NumPDUsRx = 2 * p_P ] TM ! TxStatus  | cas_StatusReq(                            | (P)     | 7        |
|          |       |  | tsc_RB_AM_7_RLC,                          |         |          |
|          |       |  | cs_SF_Ack(                                |         |          |
|          |       |  | tcv_AM_VRH),                              |         |          |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )  |         |          |
| 36       | TBP3  | [ tcv_NumPDUsRx = 3 * p_P ]  |   | (P)     | 7        |
| 37       |       | TM ! TxStatus  | cas_StatusReq(                            |         | 7        |
|          |       |  | tsc_RB_AM_7_RLC,                          |         |          |
|          |       |  | cs_SF_Ack(<br>tcv_AM_VRH),                |         |          |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 )  |         |          |
| 38       | TBF1  | [TRUE]   |   | (F)     | 7        |
|          |       | lt_CheckSeqNum   |   |         |          |
| 39       | TBP5  | [ tcv_AM_VRH = BIT_TO_INT(tcv_AMD_PDU.seqNum) ]                                      |   | (P)     |          |
| 40       |       | [TRUE]   |   |         |          |
| 41       |       | [ tcv_CheckNextUplinkSN_Is0 = TRUE ]   |   |         |          |
| 42       |       | [ tcv_NumPDUsReceived = 0 ]  |   |         |          |
| 43       | TBP6  | [ 0 = BIT_TO_INT(tcv_AMD_PDU.seqNum) ]   |   | (P)     |          |

|    | Test Case Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr | Label                       | Behaviour Description                  | Constraints Ref | Verdict | Comments |  |  |  |  |
| 44 |                             | (tcv_NumPDUsReceived := 1)             |                 |         |          |  |  |  |  |
| 45 | TBF3                        | [TRUE]                                 |                 | (F)     |          |  |  |  |  |
| 46 |                             | [ tcv_NumPDUsReceived = 1 ]            |                 |         |          |  |  |  |  |
| 47 | TBP7                        | [ 1 = BIT_TO_INT(tcv_AMD_PDU.seqNum) ] |                 | (P)     |          |  |  |  |  |
| 48 |                             | ( tcv_CheckNextUplinkSN_Is0 := FALSE ) |                 |         |          |  |  |  |  |
| 49 | TBF4                        | [TRUE]                                 |                 | (F)     |          |  |  |  |  |
| 50 | TBF5                        | [TRUE]                                 |                 | (F)     |          |  |  |  |  |
| 51 | TBF6                        | [TRUE]                                 |                 | (F)     |          |  |  |  |  |

- Detailed Comments: 1. Run the procedure with Poll\_PDU set to 4. Note that the parameter p\_P must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_PDU in the parameter p\_RLC\_Info.
  - 2. The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN. (Steps 1 – 4 in the expected sequence)
  - 3. Transmit and receive PDUs until 3 \* p\_P 2 PDUs have been transmitted, and 3 \* p\_P PDUs have been received. The polling bit is expected to be set in the Pth, 2Pth, and 3Pth PDUs received. In this test case, the number of SDUs is the same as the number of PDUs.
  - 4. Receive the next uplink PDU from the UE, and check if the poll bit is set. Also increment the VR(R) state variable, and tcv\_NumPDUsRx. Reception of any other PDU is handled in the default behaviour and will result in a failure

(Steps 5 to 8 and 10 to 16 in the expected sequence)

- 5. Transmit the next downlink PDU to the UE until 3 \* p\_P 2 PDUs have been transmitted. Increment tcv\_NumPDUsTx.
- 6. If the poll bit is set, check if it is in one of the expected PDUs. tcv\_NumPDUsRx contains the total number of PDUs received, including retransmissions.
- 7. A poll is expected in PDU numbers p\_P, 2 \* p\_P, and 3 \* p\_P. A poll request in any other PDU results in a failure verdict. If this is the p\_Pth PDU, a STATUS PDU is sent to the UE negatively acknowledging the PDUs with SNs 0 and 1. If this is any other expected poll request, a STATUS PDU is sent to the UE positively acknowledging all PDUs received.

Test Case Name : tc\_7\_2\_3\_18

**Group** : RLC/AcknowledgedMode/Polling/

**Purpose**: 1. To verify that a poll is performed when VT(SDU) reaches Poll\_SDU.

2. To verify that the poll is sent in the last PDU of the SDU.

Configuration:

Default : RLC\_Default

**Comments**: References: TS 25.322 clauses 9. 4, 9.6, 9.7.1, and 11.3.2.1.1

Selection Ref :

**Description**: Polling for status / Poll every Poll\_SDU SDUs

| Nr  | Label | Behaviour Description  | Constraints Ref                          | Verdict | Comments |
|-----|-------|--|--|---------|----------|
| 1   |       | START t_Guard( 300 )   |  |         |          |
| 2   |       | +pr_GenericSetupProcedures   |  |         |          |
| 3   |       | +lt_PollEveryPollSDU_Test(<br>cds_RLC_InfoAM_7_2_3_18_Run1, 1)       |  |         | 1        |
| 4   |       | ( tcv_RB_Established := FALSE )                                      |  |         |          |
| 5   |       | +ts_RRC_RB_ReIRLC(tsc_DefaultCellId)                                 |  |         |          |
| 6   |       | +lt_PollEveryPollSDU_Test(<br>cds_RLC_InfoAM_7_2_3_18_Run2, 16)      |  |         | 2        |
| 7   |       | +po_GenericCleanupProcedures   |  |         |          |
|     |       | It_PollEveryPollSDU_Test( p_RLC_Info:<br>RLC_Info; p_P: INTEGER )    |  |         |          |
| 8   |       | +pr_RB_SetupAM7( p_RLC_Info )  |  |         |          |
| 9   |       | +pr_CloseUE_TestLoop( ( 2 * tcv_PayloadSize –<br>1 ) * 8 )           |  |         |          |
| 10  |       | ( tcv_NumPDUsTx := 0,<br>tcv_NumPDUsRx := 0,<br>tcv_NumPollsRx := 0) |  |         |          |
| 11  | TBS   | ( tcv_TestBody := TRUE )   |  |         |          |
| 12  |       | START t_TTI  |  |         | 3        |
| 13  |       | REPEAT It_TxAndRx( p_P ) UNTIL                                       |  |         | 4        |
|     |       | [ ( tcv_NumPDUsTx = ( 2 * p_P ) ) AND                                |  |         |          |
|     |       | (tcv_NumPDUsRx = ( 2 * 2 * p_P ) )<br>AND                            |  |         |          |
|     |       | ( tcv_NumPollsRx >= 2 ) ]  |  |         |          |
| 14  | TBE   | ( tcv_TestBody := FALSE )  |  |         |          |
| 15  |       | CANCEL t_TTI   |  |         |          |
| 16  |       | +po_OpenUE_TestLoop  |  |         |          |
| l   |       | It_TxAndRx( p_P: INTEGER )   | 5.1.1                                    |         | _        |
| 17  |       | TM ? RxAMD<br>(tcv_AMD_PDU := RxAMD.data)                            | car_DataInd(<br>tsc_RB_AM_7_RLC,         |         | 5        |
|     |       |  | cr_AMD_LI_Data(                          |         |          |
|     |       |  | c_Lls1_7BitLl(<br>tcv_PayloadSize - 1 ), |         |          |
|     |       |  | *  |         |          |
| ١., |       |  | ))                                       |         |          |
| 18  |       | +lt_CheckPollBitAndUpdateVars( p_P )                                 |  |         | 6        |

|    |       | Test Case Dynamic  | : Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 19 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,                                      |         | 5        |
|    |       |  | cr_AMD_Data(* ) )   |         |          |
| 20 |       | +lt_CheckPollBitAndUpdateVars( p_P )   |   |         | 6        |
| 21 |       | ? TIMEOUT t_TTI  |   |         | 3        |
| 22 |       | [ tcv_NumPDUsTx < 2 * p_P ]  |   |         | 7        |
| 23 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )                 |   |         | 7        |
| 24 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1 )   |   |         | 7        |
| 25 |       | START t_TTI  |   |         | 3        |
| 26 |       | [TRUE]   |   |         | 7        |
|    |       | It_CheckPollBitAndUpdateVars( p_P: INTEGER )   |   |         |          |
| 27 |       | +lt_CheckPollBit( p_P )  |   |         | 8        |
| 28 |       | +ts_IncrementAM_VRR  |   |         | 6        |
| 29 |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   |   |         | 6        |
|    |       | It_CheckPollBit( p_P: INTEGER )  |   |         |          |
| 30 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |   |         | 8        |
| 31 | TBF2  | [(BIT_TO_INT(tcv_AMD_PDU.seqNum) = 2 * p_P - 1) OR (BIT_TO_INT(tcv_AMD_PDU.seqNum) = 2 * 2 * p_P - 1)]           |   | (F)     | 8        |
| 32 | TBP2  | [TRUE]   |   | (P)     | 8        |
| 33 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |   |         | 8        |
| 34 |       | ( tcv_NumPollsRx := tcv_NumPollsRx + 1 )   |   |         |          |
| 35 |       | TM ! TxStatus  | cas_StatusReq(  |         | 8        |
|    |       |  | tsc_RB_AM_7_RLC,  |         |          |
|    |       |  | cs_SF_Ack( BIT_TO_INT( tcv_AMD_PDU.seqNum)+ 1), (2*(tcv_PayloadSize+2 |         |          |
|    |       |  | ))-5)   |         |          |
| 36 | TBP1  | [ ( BIT_TO_INT( tcv_AMD_PDU.seqNum ) = 2 * p_P - 1 ) OR ( BIT_TO_INT( tcv_AMD_PDU.seqNum ) = 2 * 2 * p_P - 1 ) ] |   | (P)     | 8        |
| 37 | TBF1  | [TRUE]   |   | (F)     | 8        |

- **Detailed Comments**: 1. Run the procedure with Poll\_SDU set to 1. Note that the parameter p\_P must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.poll\_SDU in the parameter p\_RLC\_Info.
  - 2. Repeat the procedure with Poll\_SDU set to 16 and the Tx WindowSize set to 256.
  - 3. The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN. (Steps 1 – 4 in the expected sequence)
  - 4. Transmit and receive PDUs until 2 \* p\_P SDUs have been transmitted, and

### Detailed Comments : ...

2 \* p\_P SDUs have been received. The UL SDUs are expanded to 2 \* AM\_7\_PayloadSize – 1 octets by

the loopback function, so 2 UL PDUs are received per SDU. The polling bit is expected to be set in the UL PDUs with SNs 2 \*  $p_P - 1$  and 4 \*  $p_P - 1$ . (Steps 1 – 13 in the expected sequence)

- 5. Each PDU received will either have no LIs, and have a full payload, or will have a single LI indicating that the rest of the payload completes the current SDU. STATUS PDUs should not be received (Steps 5 8 and 10 13 in the expected sequence)
- Each time a PDU is received, the Poll bit is checked, tcv\_NumPDUsRx and the VR(R) state variable are incremented.
- Keep transmitting PDUs until 2 \* p\_P SDUs have been transmitted. once the last PDU has been transmitted, the timer t\_TTI is not restarted. (Steps 1 - 4 in the expected sequence)
- 8. If the Poll bit is set on a received PDU, a STATUS PDU is returned acknowledging all received PDUs, and the received SN is checked. tcv\_NumPollsRx is incremented for each poll request received in a PDU with an expected SN. If the poll bit is set on any PDUs other than those expected a failure verdict is assigned.

**Test Case Name** : tc\_7\_2\_3\_19

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : 1. To verify that the UE polls the SS in the next PDU to be transmitted or retransmitted each time

the Timer\_Poll\_Periodic timer expires.

2. To verify that if there is no PDU to be transmitted, and all the PDUs have already been

acknowledged, the timer is restarted, but no poll is sent.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 clauses 9.5, 9.7.1 and 11.3.2.1.1

Selection Ref :

**Description**: Polling for status / Timer triggered polling (Timer\_Poll\_Periodic)

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +lt_TimerPollPeriodicTest( cds_RLC_InfoAM_7_2_3_19_Run1, 500)  |                 |         | (1)      |
| 4  |       | ( tcv_RB_Established := FALSE )  |                 |         |          |
| 5  |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)   |                 |         |          |
| 6  |       | +lt_TimerPollPeriodicTest(<br>cds_RLC_InfoAM_7_2_3_19_Run2,<br>2000)   |                 |         | (2)      |
| 7  |       | +po_GenericCleanupProcedures   |                 |         |          |
|    |       | It_TimerPollPeriodicTest( p_RLC_Info: RLC_Info; p_T: INTEGER )   |                 |         |          |
| 8  |       | +pr_RB_SetupAM7( p_RLC_Info )  |                 |         |          |
| 9  |       | +lt_CalcCount( p_T )   |                 |         | (31)     |
| 10 |       | +pr_CloseUE_TestLoop((( tcv_PayloadSize * (tcv_Count/5 ))-1) * 8 )   |                 |         | (32)     |
| 11 |       | ( tcv_NumPDUsTx := 0,<br>tcv_NumPollsRx := 0,<br>tcv_NumTimeouts := 0)                                       |                 |         |          |
| 12 | TBS   | ( tcv_TestBody := TRUE )   |                 |         |          |
| 13 |       | +lt_MonitorUplink( p_T )   |                 |         | (3)      |
| 14 |       | +ts_RLC_CalcTolerance(p_T)   |                 |         | (4)      |
| 15 |       | START t_TTI  |                 |         | (5)      |
| 16 |       | REPEAT It_TxAndRx( p_T ) UNTIL [ ( tcv_NumPDUsTx >= 1 ) AND ( tcv_AMD_SeqNum = INT_TO_BIT(tcv_Count -1,12) ) |                 |         | (7)      |
|    |       | AND (tcv_NumPollsRx = 2 )]   |                 |         |          |
| 17 |       | CANCEL t_Dly   |                 |         |          |
| 18 |       | +lt_MonitorUplink( p_T )   |                 |         | (3)      |
| 19 |       | +lt_CheckNumPolls  |                 |         | (8)      |
| 20 | TBE   | ( tcv_TestBody := FALSE )  |                 |         |          |
| 21 |       | +po_OpenUE_TestLoop  |                 |         |          |
|    |       | lt_TxAndRx( p_T: INTEGER )   |                 |         |          |
| 22 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |                 |         | (11)     |
| 23 | TBF1  | [ tcv_NumPollsRx <> tcv_NumTimeouts ]<br>(tcv_InvalidTimeout := TRUE)  |                 | (F)     | (12)     |
| 24 |       | [ tcv_NumPollsRx = tcv_NumTimeouts ]   |                 |         | (12)     |

|    |       | Test Case Dynamic  | Behaviour  |         |          |
|----|-------|--|--|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
| 25 |       | TM ? RxAMD ( tcv_AMD_PDU := RxAMD.data, tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum )                         | car_DataInd(<br>tsc_RB_AM_7_RLC,<br>cr_AMD_Any)  |         | (9)      |
| 26 |       | +lt_CheckPollBit( p_T )  |  |         | (9)      |
| 27 |       | ? TIMEOUT t_TTI  |  |         | (5)      |
| 28 |       | [(tcv_NumPDUsTx < 1)]  |  |         | (10)     |
| 29 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls5_7BitLls((tcv_PayloadSize/5) - 1) ,<br>tcv_PayloadSize - 5 ) |  |         | (6)      |
| 30 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1 )   |  |         | (10)     |
| 31 |       | START t_TTI  |  |         | (5)      |
| 32 |       | [TRUE]   |  |         |          |
| 33 | ERR2  | ?TIMEOUT t_Dly   |  | 1       | (35)     |
| 34 | TBF2  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |  | (F)     | (13)     |
|    |       | lt_CheckPollBit( p_T: INTEGER )  |  |         |          |
| 35 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |  |         | (14)     |
| 36 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |  |         |          |
| 37 |       | ( tcv_NumPollsRx := tcv_NumPollsRx + 1)  |  |         | (15)     |
| 38 |       | [ ( tcv_NumPollsRx = 1 ) AND (<br>tcv_NumTimeouts = 0 ) ]  |  |         | (16)     |
| 39 |       | START t_LowerBound(p_T - tcv_Tolerance), START t_UpperBound(p_T + tcv_Tolerance)                     |  |         | (17)     |
| 40 |       | [ ( tcv_NumPollsRx = 2 ) AND (<br>tcv_NumTimeouts = 1 ) ]  |  |         | (19)     |
| 41 |       | START t_Dly(10 * p_T)  |  |         | (35)     |
| 42 |       | CANCEL t_UpperBound  |  |         | (24)     |
| 43 |       | TM ! TxStatus  | cas_StatusReq( tsc_RB_AM_7_RLC, cs_SF_Ack(BIT_TO_INT( tcv_AMD_PDU.seqNum)+ 1), (2*(tcv_PayloadSize +2))-5) |         | (18)     |
| 44 | TBF3  | [ ( tcv_NumPollsRx = 2 ) AND (   |  | (F)     | (20)     |
|    |       | tcv_NumTimeouts <> 1 ) ]   |  |         |          |
| 45 |       | [ tcv_NumPollsRx > 2 ]   |  |         | (27)     |
| 46 | ERR1  | [TRUE]   |  | 1       | (28)     |
|    |       | lt_MonitorUplink( p_T: INTEGER )   |  |         |          |
| 47 |       | START t_WaitMS( 2 * p_T )  |  |         | (3)      |
| 48 | TBF4  | TM ? OTHERWISE   |  | (F)     | (3)      |
| 49 |       | ? TIMEOUT t_WaitMS   |  |         | (3)      |
|    |       | lt_CheckNumPolls   |  |         |          |
| 50 | TBP1  | [(tcv_NumPollsRx >= 2) AND (tcv_InvalidTimeout = FALSE)]   |  | (P)     | (30)     |
| 51 |       | TM! TxStatus   | cas_StatusReq( tsc_RB_AM_7_RLC, cs_SF_Ack(BIT_TO_INT( tcv_AMD_PDU.seqNum)+ 1), (2*(tcv_PayloadSize +2))-5) |         | (25)     |
| 52 | TBF5  | [TRUE]   |  | (F)     |          |

|    | Test Case Dynamic Behaviour |                                    |                 |         |          |  |  |  |
|----|-----------------------------|------------------------------------|-----------------|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description              | Constraints Ref | Verdict | Comments |  |  |  |
|    |                             | lt_CalcCount(p_T: INTEGER)         |                 |         |          |  |  |  |
| 53 |                             | [((p_T MOD (tsc_TTI)) = 0)]        |                 |         | (31)     |  |  |  |
| 54 |                             | (tcv_Count := p_T / ( tsc_TTI))    |                 |         | (31)     |  |  |  |
| 55 |                             | [TRUE]                             |                 |         | (31)     |  |  |  |
| 56 |                             | (tcv_Count := p_T / (tsc_TTI) + 1) |                 |         | (31)     |  |  |  |

- **Detailed Comments**: (1) Run the procedure with TimerPollPeriodic set to 500. Note that the parameter p\_T must correspond to the field RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic in the parameter p\_RLC\_Info.
  - (2) Repeat the procedure with TimerPollPeriodic set to 2000.
  - (3) Wait for 2 \* Tms before starting any transmissions, and ensure that no data is sent by the UE (step (a) in the test procedure)
  - (4) Calculate the timer tolerance for p\_T (TimerPollPeriodic) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (5) The timer t\_TTI is used to trigger transmission of the next PDU.
  - (6) Send 5 SDUs of size floor(PayloadSize/5) -1 in 1 single PDU.
  - (7) Send 1 PDU and receive PDUs until all PDUs triggered by the transmitted PDU as well as 2 polls have been received.
  - (8) Check if the number of polls is as expected.
  - (9) Receive the next uplink PDU from the UE, and check if the poll bit is set.
  - (10) If no PDU has been transmitted yet: transmit the next downlink PDU to the UE. Increment tcv\_NumPDUsTx.
  - (11) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll\_Periodic). No further poll PDU should have been received before this timeout. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
  - (12) If the number of timeouts is not compatible with the number of received poll PDUs, indicate an invalid timeout.
  - (13) Give a preliminary FAIL verdict if no poll PDU has been received while the timer with the positive tolerance with respect to p\_T was running and indicate an invalid timeout.
  - (14) Do nothing if the poll bit is not set.
  - (15) Increase counter for the number of received PDUs with the poll bit set.
  - (16) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired.
  - (17) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll\_Periodic).
  - (18) A STATUS PDU is transmitted acknowledging all PDUs received so far (steps 2 to 8 in the expected sequence)
  - (19) The second PDU with the poll bit set has been received and the LowerBound timer has expired once.
  - (20) The second PDU with the poll bit set has been received and the LowerBound timer has not yet expired.
  - (24) Cancel the timer supervising that the 1st poll PDU is received. No further need.
  - (25) A STATUS PDU is transmitted acknowledging all received PDUs (step 17 in the expected
  - (27) Ignore further PDUs with the poll bit set.
  - (28) If tcv\_NumPollsRx is 0 or negative, an inconclusive verdict is assigned indicating that a test case error has occured.
  - (30) Assign preliminary PASS verdict when the number of PDUs received with the poll bit set is >=2 and no invalid timeout occurred.
  - (31) Calculate ceil(T / (TTI)) and store the result in tcv Count.
  - (32) Set Uplink SDU size to AM\_7\_PayloadSize \* ceil(T / (5\*TTI)).
  - (35) If the 3rd poll is not received in a reasonable amount of time this may be due to not having waited long enough.

Test Case Name : tc\_7\_2\_3\_20

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : To verify that the UE polls the SS when the window based polling condition J>=Poll\_Window is

fulfilled.

Configuration:

Default : RLC\_Default

**Comments**: References: TS25.322 Clauses 9.6, 9.7.1 and 11.3.2.1.1.

Selection Ref :

**Description**: Polling for status / Polling on Poll\_Window% of transmission window

| Nr | Label | Behaviour Description  | Constraints Ref                         | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | START t_Guard( 300 )   |   |         |          |
| 2  |       | +pr_GenericSetupProcedures   |   |         |          |
| 3  |       | +lt_PollWindowTest(<br>cds_RLC_InfoAM_7_2_3_20, 8)   |   |         | 1        |
| 4  |       | +po_GenericCleanupProcedures   |   |         |          |
|    |       | It_PollWindowTest( p_RLC_Info: RLC_Info; p_W: INTEGER )  |   |         |          |
| 5  |       | +pr_RB_SetupAM7( p_RLC_Info )  |   |         |          |
| 6  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 ) * 8 )  |   |         |          |
| 7  |       | ( tcv_NumPDUsTx := 0,<br>tcv_NumPollsRx := 0 )   |   |         |          |
| 8  |       | START t_TTI  |   |         | 2        |
| 9  | TBS   | ( tcv_TestBody := TRUE )   |   |         |          |
| 10 |       | REPEAT It_TxAndRx( p_W) UNTIL[ tcv_NumPollsRx >= 5 ]   |   |         | 3        |
| 11 | TBE   | ( tcv_TestBody := FALSE )  |   |         |          |
| 12 |       | CANCEL t_TTI   |   |         |          |
| 13 |       | +po_OpenUE_TestLoop  |   |         |          |
|    |       | It_TxAndRx( p_W: INTEGER )   |   |         |          |
| 14 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,        |         | 4        |
|    |       |  | cr_AMD_LI_Data(                         |         |          |
|    |       |  | c_Lls1_7BitLl(<br>tcv_PayloadSize – 1), |         |          |
|    |       |  | *))                                     |         |          |
| 15 |       | +lt_ChkPollBit( p_W )  | , ,                                     |         | 4        |
| 16 |       | ? TIMEOUT t_TTI  |   |         | 2        |
| 17 |       | [ tcv_NumPDUsTx < ( p_W / 2 ) + 2 ]  |   |         | 5        |
| 18 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 ) |   |         | 5        |
| 19 |       | ( tcv_NumPDUsTx := tcv_NumPDUsTx + 1 )   |   |         | 5        |
| 20 |       | START t_TTI  |   |         | 2        |
| 21 |       | _<br>[TRUE]  |   |         | 5        |
|    |       | lt_ChkPollBit( p_W: INTEGER )  |   |         | <b> </b> |
| 22 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |   |         | 6        |

|          | Test Case Dynamic Behaviour |  |  |         |          |  |  |
|----------|-----------------------------|--|--|---------|----------|--|--|
| Nr       | Label                       | Behaviour Description  | Constraints Ref                          | Verdict | Comments |  |  |
| 23       | TBF2                        | [(BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2) - 1) OR (BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2)) OR (BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2) + 1) OR (BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2) + 2) OR (BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2) + 2) OR (BIT_TO_INT( tcv_AMD_PDU.seqNum) = ( p_W/2) + 4)] |  | (F)     |          |  |  |
| 24       |                             | [TRUE]   |  |         |          |  |  |
| 25<br>26 |                             | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]  |  |         | 6        |  |  |
| 27       | TBP4                        | (tcv_NumPollsRx := tcv_NumPollsRx + 1)  [BIT_TO_INT( tcv_AMD_PDU.seqNum ) = ( p_W/2) - 1]  |  | (P)     | 0        |  |  |
| 28       | TBP5                        | [BIT_TO_INT( tcv_AMD_PDU.seqNum ) = (<br>p_W/2) ]  |  | (P)     |          |  |  |
| 29       | TBP1                        | [BIT_TO_INT( tcv_AMD_PDU.seqNum) = (<br>p_W/2) + 1]  |  | (P)     | 7        |  |  |
| 30       |                             | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )   |  |         | 7        |  |  |
| 31       | TBP2                        | [BIT_TO_INT( tcv_AMD_PDU.seqNum) = (<br>p_W/2) + 2]  |  | (P)     | 8        |  |  |
| 32       |                             | +ts_RLC_Delay( 10 * tsc_TTI)   |  |         | 11       |  |  |
| 33       |                             | TM ! TxStatus  | cas_StatusReq(                           |         | 8        |  |  |
|          |                             |  | tsc_RB_AM_7_RLC,                         |         |          |  |  |
|          |                             |  | cs_SF_Ack( 5 ),                          |         |          |  |  |
|          |                             |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) - 5 ) |         |          |  |  |
| 34       |                             | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )   |  |         | 8        |  |  |
| 35       |                             | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )   |  |         | 8        |  |  |
| 36       | TBP3                        | [ BIT_TO_INT( tcv_AMD_PDU.seqNum ) = (<br>p_W / 2 ) + 4 ]  |  | (P)     | 9        |  |  |
| 37       | TBF1                        | [TRUE]   |  | (F)     | 10       |  |  |

**Detailed Comments**: 1. Run the procedure with PollWindow set to 8. Note that the parameter p\_W must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.pollWindow in

the parameter p\_RLC\_Info.

- 2. The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN. (Steps 1 to 3 in the expected sequence Note that other PDU transmissions are triggered upon reception of UL PDUs with their poll bit set.)
- 3. Send and receive PDUs until 5 PDUs have been received with their poll bit set.

# Detailed Comments : ...

4. Receive the next uplink PDU from the UE, and check if the poll bit is set. Reception of any other PDU is handled in the default behaviour and will result in a failure verdict.

(Steps 4 to 7, 9, 13, and 14 and in the expected sequence)

- 5. Transmit the next downlink PDU to the UE until ( p\_W / 2 ) + 2 PDUs have been transmitted. Increment tcv\_NumPDUsTx. (Steps 1 to 3 in the expected sequence)
- 6. If the poll bit in the received PDU is set, increment tcv\_NumPollsRx, and check that the SN is one of the expected values.
- 7. The third poll should be received in the PDU with SN W/2+1. When this PDU is received, a further PDU is transmitted. (Steps 7 and 8 in the expected sequence)
- 8. The fourth poll should be received in the PDU with SN W/2+2. When this PDU is received, a STATUS PDU is transmitted acknowledging the PDUs with SNs 0-3, and two further PDUs are transmitted. (Step 9 in the expected sequence)
- 9. The fifth poll should be received in the PDU with SN W/2+4. (Step 14 in the expected sequence)
- 10. Reception of any other PDUs with the poll bit set results in a failure verdict.
- 11. SS waits 10 TTI periods to ensure no more PDUs are received

**Test Case Name** : tc\_7\_2\_3\_21

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : To verify that if the timer expires and no STATUS PDU containing an acknowledgement or negative

acknowledgement of the AMD PDUs up to that which triggered the timer has been received, the

receiver is polled once more.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clauses 11.3.2.1.1 and 11.3.4.1.

Selection Ref :

**Description**: Polling for status / Operation of Timer\_Poll timer / Timer expiry

| Nr       | Label     | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----------|-----------|---|-----------------|---------|----------|
| 1        |           | START t_Guard(300)  |                 |         |          |
| 2        |           | +pr_GenericSetupProcedures  |                 |         |          |
| 3        |           | +lt_TimerPollExpiryTest(cds_RLC_InfoAM_7_2<br>_3_21_Run1, 600, 2000)  |                 |         | (1)      |
| 4        |           | (tcv_RB_Established:= FALSE)  |                 |         |          |
| 5        |           | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)  |                 |         |          |
| 6        |           | +lt_TimerPollExpiryTest(cds_RLC_InfoAM _7_2_3_21_Run2, 1000, 2000)  |                 |         | (2)      |
| 7        |           | +po_GenericCleanupProcedures  |                 |         |          |
|          |           | It_TimerPollExpiryTest(p_RLC_Info: RLC_Info; p_T, p_TE: INTEGER)  |                 |         |          |
| 8        |           | +pr_RB_SetupAM7(p_RLC_Info)   |                 |         |          |
| 9        |           | +pr_CloseUE_TestLoop((tcv_PayloadSize - 1) * 8)   |                 |         |          |
| 10       |           | (tcv_NumPDUsTx:= 0,<br>tcv_NumPDUsRx:= 0,<br>tcv_NumPollsRx:= 0,<br>tcv_NumTimeouts:=0,<br>tcv_Count := (2 * p_TE / tsc_TTI),<br>tcv_InvalidTimeout:=FALSE,<br>tcv_RLC_WaitForPoll:= FALSE) |                 |         |          |
| 11       |           | +ts_RLC_CalcTolerance(p_T)  |                 |         | (3)      |
| 12       |           | START t_TTI   |                 |         | (4)      |
| 13       |           | START t_Poll  |                 |         | (5)      |
| 14       | TBS       | (tcv_TestBody:= TRUE)   |                 |         |          |
| 15       |           | REPEAT lt_TxAndRx(p_T) UNTIL<br>[((tcv_NumPDUsTx =tcv_Count)  |                 |         | (6)      |
|          |           | AND(tcv_AMD_SeqNum<br>=INT_TO_BIT(tcv_Count-1,12)))   |                 |         |          |
|          |           | OR (tcv_InvalidTimeout = TRUE)]   |                 |         |          |
| 16       |           | (tcv_RLC_WaitForPoll:= TRUE)  |                 |         |          |
| 17       |           | REPEAT It_TxAndRx(p_T) UNTIL<br>[(tcv_RLC_WaitForPoll = FALSE)]   |                 |         | (24)     |
| 18       |           | +lt_CheckNumPolls   |                 |         | (7)      |
| 19       | TBE       | (tcv_TestBody:= FALSE)  |                 |         |          |
| 20       |           | CANCEL t_TTI  |                 |         |          |
| 21       |           | CANCEL t_Poll   |                 |         |          |
| 22       |           | +po_OpenUE_TestLoop   |                 |         |          |
|          |           | lt_TxAndRx(p_T: INTEGER)  |                 |         |          |
| <i>a</i> | und on no |   |                 |         |          |

| 23   | Test Case Dynamic Behaviour |  |  |  |  |  |  |
|--|-----------------------------|--|--|--|--|--|--|
| tov_NumTimeouts + 1) [tov_NumPollsRx = tov_NumTimeouts] [tov_InvalidTimeout := TRUE) [tov_NumPollsRx = tov_NumTimeouts] [tov_NumPollsRx = tov_NumTimeouts] TM ? RxAMD(tov_AMD_PDU:= RxAMD.data, tov_AMD_SeqNum:=tov_AMD_PDU.seqNum)  TM ? RxAMD(tov_AMD_PDU.seqNum)  TM ? RxAMD(tov_AMD_PDU.seqNum)  **Interpol =  | Comments                    |  |  |  |  |  |  |
| (tcv_NumPollsRx = tcv_NumPollsRx   tcv_AMD_PDU:=RxAMD_data, tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum)  | (10)                        |  |  |  |  |  |  |
| TM ? RxAMD(tcv_AMD_PDU:= RxAMD.data, tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum)   | (11)                        |  |  |  |  |  |  |
| tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum)    Comparison  |                             |  |  |  |  |  |  |
| 27   | (8)                         |  |  |  |  |  |  |
| 1  | (8)                         |  |  |  |  |  |  |
| tcv_RLC_WaitForPoll:= FALSE)     tcv_NumPollsTx < tcv_Count  | (8)                         |  |  |  |  |  |  |
| 30   | (8)                         |  |  |  |  |  |  |
| 31   |                             |  |  |  |  |  |  |
| 132  | (4)                         |  |  |  |  |  |  |
| C_LIs1_7BitLl(tcv_PayloadSize - 1),  | (9)                         |  |  |  |  |  |  |
| START t_TTI   [TRUE]   | (9)                         |  |  |  |  |  |  |
| 35   | (9)                         |  |  |  |  |  |  |
| TBF2   | (4)                         |  |  |  |  |  |  |
| TRUE   |                             |  |  |  |  |  |  |
| 37   | (12)                        |  |  |  |  |  |  |
| 38   |                             |  |  |  |  |  |  |
| 39   | (13)                        |  |  |  |  |  |  |
| TBF3   |                             |  |  |  |  |  |  |
| tcv_NumTimeouts = 0 ) ]  START t_LowerBound(p_T - tcv_Tolerance), START t_UpperBound(p_T + tcv_Tolerance)  [ (tcv_NumPollsRx = 2 ) AND ( tcv_NumTimeouts = 1 ) ]  CANCEL t_UpperBound  TM! TxStatus  cas_StatusReq(tsc_RB_AM7_RLC,cs_SF_Ack(BIT_TO_INT(tcvAMD_PDU.seqNum) + 1),(2*(tcv_PayloadSize + 2)) - 5)  TBF3  [ (tcv_NumPollsRx <= 2) AND(tcv_NumPollsRx <> tcv_NumTimeouts + 1) ]  [ tcv_NumPollsRx > 2] | (14)                        |  |  |  |  |  |  |
| START t_UpperBound(p_T + tcv_Tolerance)  | (15)                        |  |  |  |  |  |  |
| tcv_NumTimeouts = 1 ) ]  43  | (16)                        |  |  |  |  |  |  |
| 44       TM! TxStatus       cas_StatusReq(tsc_RB_AM _ 7_RLC, cs_SF_Ack(BIT_TO_INT(tcv _ AMD_PDU.seqNum) + 1), (2*(tcv_PayloadSize + 2)) - 5)         45       TBF3       [ (tcv_NumPollsRx <= 2) AND _ (tcv_NumPollsRx <> tcv_NumTimeouts + 1) ]       (F)         46       [tcv_NumPollsRx > 2]       (F)   | (17)                        |  |  |  |  |  |  |
| 7_RLC, cs_SF_Ack(BIT_TO_INT(tcv _AMD_PDU.seqNum) + 1), (2*(tcv_PayloadSize + 2)) - 5)  45 TBF3  [(tcv_NumPollsRx <= 2) AND (tcv_NumPollsRx <> tcv_NumTimeouts + 1)] 46  [tcv_NumPollsRx > 2]   | (18)                        |  |  |  |  |  |  |
| (tcv_NumPollsRx <> tcv_NumTimeouts + 1) ] [tcv_NumPollsRx > 2]   | (19)                        |  |  |  |  |  |  |
|  | (20)                        |  |  |  |  |  |  |
| 47 TM! TxStatus cas_StatusReq(tsc_RB_AM  | (21)                        |  |  |  |  |  |  |
| 7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2*(tcv_PayloadSize + 2)) -<br>5)  | (19)                        |  |  |  |  |  |  |
|  | (22)                        |  |  |  |  |  |  |
| lt_CheckNumPolls   |                             |  |  |  |  |  |  |

|    | Test Case Dynamic Behaviour |  |   |         |          |  |  |
|----|-----------------------------|--|---|---------|----------|--|--|
| Nr | Label                       | Behaviour Description                                    | Constraints Ref   | Verdict | Comments |  |  |
| 49 | TBP1                        | [(tcv_NumPollsRx >= 2) AND (tcv_InvalidTimeout = FALSE)] |   | (P)     | (23)     |  |  |
| 50 |                             | TM ! TxStatus  | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2 * (tcv_PayloadSize + 2))<br>_ 5) |         | (24)     |  |  |
| 51 | TBF4                        | [TRUE]   |   | (F)     |          |  |  |

- **Detailed Comments**: (1) Run the procedure with TimerPoll set to 600. Note that the parameter p\_T must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll in the parameter p\_RLC\_Info.
  - (2) Repeat the procedure with TimerPoll set to 1000.
  - (3) Calculate the timer tolerance for p\_T (Timer\_Poll) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv Tolerance.
  - (4) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN (steps 1 - 3 in the expected sequence).
  - (5) The t\_Poll timer is used to ensure that PDUs are received with the poll bit set. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive verdict.
  - (6) Send and receive PDUs until 2\*p\_TE / TTI PDUs have been transmitted and PDU with SN=2\*p\_TE / TTI-1 has been received. p\_TE is Timer\_Poll\_Periodic.
  - (7) Check if the number of polls is as expected. Note that the time interval between polls has already been check using timers t\_UpperBound and t\_LowerBound.
  - (8) Receive the next uplink PDU from the UE, and check if the poll bit is set. Also increment the VR(R) state variable, and tov NumPDUsRx. Reception of any other PDU is handled in the default behaviour and will result in a failure verdict (steps 4 – 10 in the expected sequence).
  - (9) Transmit the next downlink PDU to the UE until 2 \*p\_TE / TTI PDUs have been transmitted. Increment tcv\_NumPDUsTx.
  - (10) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll). No poll PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
  - (11) If the number of timeouts is not compatible with the number of received poll PDUs, indicate an invalid timeout.
  - (12) Give a preliminary FAIL verdict if no poll PDU has been received while the timer with the positive tolerance with respect to p\_T was running, and indicate an invalid timeout
  - (13) Do nothing when the poll bit is not set.
  - (14) If the poll bit is set, increment tcv\_NumPollsRx
  - (15) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 7 in the expected sequence).
  - (16) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer Poll).
  - (17) The second PDU with the poll bit set has been received and the LowerBound timer has expired once (step 10 in the expected sequence).
  - (18) Cancel timer supervising the receipt of the second poll PDU.
  - (19) Send a STATUS PDU to acknowledge all received PDUs.
  - (20) Assign a preliminary FAIL verdict when up to 2 PDUs with the poll bit set have been received and the number of expiries of the LowerBound timer is not accordingly.
  - (21) Ignore poll PDUs after the second one.
  - (22) If tcv\_NumPollsRx is 0 or negative, an inconclusive verdict is assigned indicating that a test case error has occured.
  - (23) Assign a preliminary PASS verdict when the number of PDUs received with the poll bit set is >=2 and there is no invalid timeout.
  - (24) Send a STATUS PDU acknowledging ALL received PDUs. Otherwise Data PDUs with poll bit may be received in the postamble.

Test Case Name : tc\_7\_2\_3\_22

**Group** : RLC/AcknowledgedMode/Polling/

Purpose : To verify that the Timer\_Poll timer is stopped when receiving a STATUS PDU that acknowledges all

AMD PDUs with SN up to and including VT(S)-1 at the time the poll was transmitted.

Configuration:

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 9.5.

Selection Ref :

**Description**: Polling for status / Operation of Timer\_Poll timer / Stopping Timer\_Poll timer

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard(600)   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +lt_StoppingTimerPollTest(cds_RLC_InfoAM_7   |                 |         | (1)      |
| 4  |       | (tcv_RB_Established:= FALSE)   |                 |         |          |
| 5  |       | +ts_RRC_RB_RelRLC(tsc_DefaultCellId)   |                 |         |          |
| 6  |       | +lt_StoppingTimerPollTest(cds_RLC_Info AM_7_2_3_22_Run2, 2000)   |                 |         | (2)      |
| 7  |       | +po_GenericCleanupProcedures   |                 |         |          |
|    |       | It_StoppingTimerPollTest(p_RLC_Info: RLC_Info; p_T: INTEGER)   |                 |         |          |
| 8  |       | +pr_RB_SetupAM7(p_RLC_Info)  |                 |         |          |
| 9  |       | +pr_CloseUE_TestLoop((tcv_PayloadSize - 1) * 8)  |                 |         |          |
| 10 |       | <pre>(tcv_NumPDUsTx:= 0, tcv_NumPollsRx:= 0, tcv_NumTimeouts:= 0, tcv_Count := (2 * p_T / tsc_TTI), tcv_RLC_WaitForPoll:= FALSE)</pre> |                 |         |          |
| 11 |       | +ts_RLC_CalcTolerance(p_T)   |                 |         | (3)      |
| 12 |       | START t_TTI  |                 |         | (4)      |
| 13 |       | START t_Poll   |                 |         | (5)      |
| 14 | TBS   | (tcv_TestBody:= TRUE)  |                 |         |          |
| 15 |       | REPEAT It_TxAndRx(p_T) UNTIL<br>[((tcv_NumPDUsTx >= tcv_Count)   |                 |         | (6)      |
|    |       | AND (tcv_AMD_SeqNum<br>=INT_TO_BIT(tcv_Count - 1,12))  |                 |         |          |
|    |       | AND (tcv_NumPollsRx >= 2))   |                 |         |          |
|    |       | OR (tcv_InvalidTimeout = TRUE)]  |                 |         |          |
| 16 |       | (tcv_RLC_WaitForPoll:= TRUE)   |                 |         |          |
| 17 |       | REPEAT It_TxAndRx(p_T) UNTIL<br>[(tcv_RLC_WaitForPoll = FALSE)]  |                 |         | (22)     |
| 18 |       | +lt_CheckNumPolls  |                 |         | (7)      |
| 19 | TBE   | (tcv_TestBody:= FALSE)   |                 |         |          |
| 20 |       | CANCEL t_TTI   |                 |         |          |
| 21 |       | CANCEL t_Poll  |                 |         |          |
| 22 |       | +po_OpenUE_TestLoop  |                 |         |          |
|    |       | lt_TxAndRx(p_T: INTEGER)   |                 |         |          |
| 23 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |                 |         | (10)     |

| Table  |    | Test Case Dynamic Behaviour |   |  |         |          |  |  |
|--|----|-----------------------------|---|--|---------|----------|--|--|
|  | Nr | Label                       | Behaviour Description                   | Constraints Ref  | Verdict | Comments |  |  |
| 26   | 24 | TBF1                        | l -                                     |  | (F)     | (11)     |  |  |
| tev_AMD_SeqNum:=tev_AMD_PDU.seqNum)    tev_AMD_SeqNum:=tev_AMD_PDU.seqNum  | 25 |                             | [ tcv_NumPollsRx = tcv_NumTimeouts ]    |  |         |          |  |  |
| 28   | 26 |                             |   | _RLC,<br>cr_AMD_LI_Data(c_LIs1_7<br>BitLI(tcv_PayloadSize –                                  |         | (8)      |  |  |
| 29   | 27 |                             | +lt_CheckPollBit(p_T)                   |  |         | (8)      |  |  |
| 1  | 28 |                             | ? TIMEOUT t_TTI                         |  |         | (4)      |  |  |
| 31       c_LISI_T/BiLL(tcv_PayloadSize = 1), tov_PayloadSize = 1)       (tcv_NumPDUSTx = tcv_NumPDUSTx + 1)       (9)         32       START t_TTI       (4)         33       TBF2       ?TIMEOUT_UpperBound (tcv_InvalidTimeout := TRUE)       (F)       (12)         34       TBF2       ?TIMEOUT_UpperBound (tcv_InvalidTimeout := TRUE)       (F)       (12)         35       ICV_CAMD_PDU_pollingBit = tsc_P_NoPoll]       (13)       (13)         36       I[tcv_AMD_PDU_pollingBit = tsc_P_Poll]       (13)       (13)         37       (tcv_NumPollsRx = tcv_NumPollsRx + 1,       (13)       (13)         38       [[tcv_NumPollsRx = 1) AND (tov_NumTimeouts = 0]]       (13)         39       START t_LowerBound(p_T - tcv_Tolerance)       (13)       (14)         40       TM! TxStatus       cas_StatusReq(tsc_RB_AM_TRLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU_sepNum) + 1), (2*(tcv_PayloadSize + 2))       (15)         41       [(tcv_NumPollsRx = 2) AND (tov_NumTimeouts = 1)]       (16)         42       CANCEL t_UpperBound       cas_StatusReq(tsc_RB_AM_TRLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU_sepNum) + 1), (2*(tcv_PayloadSize + 2))       (5)         44       TBF3       [(tov_NumPollsRx <= 2) AND (tcv_NumPollsRx <= 2) AND (tcv_NumPollsRx <= 2) AND (tcv_NumPollsRx <= 2)   | 29 |                             | [tcv_NumPDUsTx < tcv_Count]             |  |         | (9)      |  |  |
| START L TITI   TRUE    TRUE    TRUE    TRUE    PTIMEOUT L UpperBound (tcv_InvalidTimeout := TRUE)   It_CheckPollBit(p_T: INTEGER)   It_CheckPollBit(p_T: INT | 30 |                             | c_Lls1_7BitLl(tcv_PayloadSize - 1),     |  |         | (9)      |  |  |
| 33   | 31 |                             | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)     |  |         | (9)      |  |  |
| TBF2   | 32 |                             | START t_TTI                             |  |         | (4)      |  |  |
| TRUE   | 33 |                             | [TRUE]                                  |  |         |          |  |  |
| 35   | 34 | TBF2                        |   |  | (F)     | (12)     |  |  |
| 36   |    |                             | lt_CheckPollBit(p_T: INTEGER)           |  |         |          |  |  |
| 37   | 35 |                             |   |  |         |          |  |  |
| 38       tcv_RLC_WaitForPoll:= FALSE)       (1 (cv_NumPollsRx = 1) AND (tcv_NumTimeouts = 0))       (13)         39       START t_LowerBound(p_T - tcv_Tolerance), START t_UpperBound(p_T + tcv_Tolerance)       cas_StatusReq(tsc_RB_AM_7.RLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2)) - 5)       (15)         41       [ (tcv_NumPollsRx = 2) AND (tcv_NumTimeouts = 1)]       (16)         42       CANCEL t_UpperBound       (17)         43       TM! TxStatus       cas_StatusReq(tsc_RB_AM_7.RLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2)) - 5)         44       TBF3       [ (tcv_NumPollsRx <= 2) AND (tcv_NumPollsRx <> tcv_NumTimeouts + 1)]       (F)       (18)         45       [ (tcv_NumPollsRx > 2]       (5)       (6)       (7)       (7)       (17)       (18)         46       TM! TxStatus       cas_StatusReq(tsc_RB_AM_7.RLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2)) - 5)       (19)       (15)         46       TM! TxStatus       cas_StatusReq(tsc_RB_AM_7.RLC, cs_SF_Ack(BIT_TO_INT(tcv_AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2)) - 5)       (15)   |    |                             | 1 -                                     |  |         |          |  |  |
| 38   | 37 |                             |   |  |         | (13)     |  |  |
| 1cv_NumTimeouts = 0 )  | 00 |                             | ·                                       |  |         | (40)     |  |  |
| START t_UpperBound(p_T + tcv_Tolerance)  |    |                             | tcv_NumTimeouts = 0 ) ]                 |  |         |          |  |  |
| Table  |    |                             | START t_UpperBound(p_T + tcv_Tolerance) |  |         |          |  |  |
| 41   | 40 |                             | TM! TxStatus                            | _7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2 * (tcv_PayloadSize + 2)) |         | (15)     |  |  |
| TM!TxStatus  | 41 |                             |   |  |         | (16)     |  |  |
| TBF3   | 42 |                             | CANCEL t_UpperBound                     |  |         | (17)     |  |  |
| 45       (tcv_NumPollsRx <> tcv_NumTimeouts + 1) ]       (19)         46       TM! TxStatus       cas_StatusReq(tsc_RB_AM _ 7_RLC, cs_SF_Ack(BIT_TO_INT(tcv _ AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2))5)       (15)   | 43 |                             | TM ! TxStatus                           | _7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2 * (tcv_PayloadSize + 2)) |         | (15)     |  |  |
| 46 TM! TxStatus  cas_StatusReq(tsc_RB_AM   | 44 | TBF3                        |   |  | (F)     | (18)     |  |  |
| _7_RLC, cs_SF_Ack(BIT_TO_INT(tcv _AMD_PDU.seqNum) + 1), (2 * (tcv_PayloadSize + 2)) - 5)   | 45 |                             | [tcv_NumPollsRx > 2]                    |  |         | (19)     |  |  |
|  | 46 |                             | TM!TxStatus                             | _7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2 * (tcv_PayloadSize + 2)) |         | (15)     |  |  |
| 14/ LEKKI I LIKUEL   | 47 | ERR1                        | [TRUE]                                  |  | 1       | (20)     |  |  |

|          | Test Case Dynamic Behaviour |   |  |         |              |  |  |  |
|----------|-----------------------------|---|--|---------|--------------|--|--|--|
| Nr       | Label                       | Behaviour Description                               | Constraints Ref  | Verdict | Comments     |  |  |  |
| 48<br>49 | TBP1                        | It_CheckNumPolls [tcv_NumPollsRx >= 2] TM! TxStatus | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2* (tcv_PayloadSize + 2)) | (P)     | (21)<br>(22) |  |  |  |
| 50       | TBF4                        | [TRUE]  | <b>–</b> 5)  | (F)     |              |  |  |  |

- **Detailed Comments**: (1) Run the procedure with TimerPoll set to 500. Note that the parameter p\_T must correspond to the field ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollPeriodic (=2000) in the parameter p\_RLC\_Info.
  - (2) Repeat the procedure with TimerPoll set to 1000.
  - (3) Calculate the timer tolerance for p\_T (Timer\_Poll) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (4) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN (steps 1 to 3 in the expected sequence).
  - (5) The t\_Poll timer is used to ensure that PDUs are received with the poll bit set. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive verdict.
  - (6) Send and receive PDUs until 2 \* T / TTI PDUs have been transmitted and received.
  - (7) Check if the number of polls is as expected. Note that the time interval between polls has already been check using timers t\_UpperBound and t\_LowerBound.
  - (8) Receive the next uplink PDU from the UE, and check if the poll bit is set. Reception of any other PDU is handled in the default behaviour and will result in a failure verdict (steps 4 to 11 in the expected sequence).
  - (9) Transmit the next downlink PDU to the UE until 2 \* T / TTI PDUs have been transmitted. Increment tcv NumPDUsTx.
  - (10) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll). No poll PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
  - (11) If the number of timeouts is not compatible with the number of received poll PDUs, indicate an invalid timeout.
  - (12) Give a preliminary FAIL verdict if no poll PDU has been received while the timer with the positive tolerance with respect to p\_T was running and indicate an invalid timeout.
  - (13) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 7 in the expected sequence).
  - (14) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll).
  - (15) A STATUS PDU is transmitted acknowledging all PDUs received so far (step 8 in the expected sequence).
  - (16) The second PDU with the poll bit set has been received and the LowerBound timer has expired once (step 11 in the expected sequence).
  - (17) Cancel timer supervising the receipt of the second poll PDU.
  - (18) Assign a preliminary FAIL verdict when up to 2 PDUs with the poll bit set have been received and the number of expiries of the LowerBound timer is not accordingly.
  - (19) Ignore poll PDUs after the second one.
  - (20) If tcv\_NumPollsRx is 0 or negative, an inconclusive verdict is assigned indicating that a test case error has occured.
  - (21) Assign a preliminary PASS verdict when the number of PDUs received with the poll bit set is >=2
  - (22) Send a STATUS PDU acknowledging ALL received PDUs. Otherwise Data PDUs with poll bit may be received in the postamble.

Test Case Name : tc\_7\_2\_3\_23

**Group** : RLC/AcknowledgedMode/Polling/

**Purpose**: To verify that if a new poll is sent when the timer is running it is restarted.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 9.5.

Selection Ref :

**Description**: Polling for status / Operation of Timer\_Poll timer / Restart of the Timer\_Poll timer

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | START t_Guard(300)   |  |         |          |
| 2  |       | +pr_GenericSetupProcedures   |  |         |          |
| 3  |       | +lt_TimerPollRestartTest(cds_RLC_InfoAM_7_<br>2_3_23, 600)   |  |         | (1)      |
| 4  |       | +po_GenericCleanupProcedures   |  |         |          |
|    |       | lt_TimerPollRestartTest(p_RLC_Info: RLC_Info; p_T: INTEGER)  |  |         |          |
| 5  |       | +pr_RB_SetupAM7(p_RLC_Info)  |  |         |          |
| 6  |       | +pr_CloseUE_TestLoop((tcv_PayloadSize - 1) * 8)  |  |         |          |
| 7  |       | (tcv_NumPDUsTx:= 0,<br>tcv_NumPollsRx:= 0,<br>tcv_NumTimeouts:= 0)   |  |         |          |
| 8  |       | +ts_RLC_CalcTolerance(p_T)   |  |         | (2)      |
| 9  |       | +lt_CalcNumSDUs(32)  |  |         | (25)     |
| 10 |       | START t_TTI  |  |         | (3)      |
| 11 |       | START t_Poll   |  |         | (4)      |
| 12 | TBS   | (tcv_TestBody:= TRUE)  |  |         |          |
| 13 |       | REPEAT It_TxAndRx(p_T) UNTIL [((tcv_NumPDUsTx >= tcv_Count) AND (tcv_NumPollsRx >= 3)) OR (tcv_InvalidTimeout = TRUE)] |  |         | (5)      |
| 14 |       | +lt_CheckNumPolls  |  |         | (6)      |
| 15 | TBE   | (tcv_TestBody:= FALSE)   |  |         |          |
| 16 |       | CANCEL t_TTI   |  |         |          |
| 17 |       | CANCEL t_Poll  |  |         |          |
| 18 |       | +po_OpenUE_TestLoop  |  |         |          |
|    |       | lt_TxAndRx(p_T: INTEGER)   |  |         |          |
| 19 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |  |         | (21)     |
| 20 | TBF2  | [ tcv_NumPollsRx <> (tcv_NumTimeouts + 1) ]<br>(tcv_InvalidTimeout := TRUE)  |  | (F)     | (22)     |
| 21 |       | [ (tcv_NumPollsRx = tcv_NumTimeouts + 1)]  |  |         |          |
| 22 |       | TM ? RxAMD (tcv_AMD_PDU:= RxAMD.data)  | car_DataInd(tsc_RB_AM_7  |         | (7)      |
|    |       |  | _RLC,<br>cr_AMD_LI_Data(c_LIs1_7<br>BitLI(tcv_PayloadSize - 1),<br>*)) |         |          |
| 23 |       | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]  | "  |         | (8)      |
| 24 |       | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]  |  |         | (9)      |
| 25 |       | (tcv_NumPollsRx:= tcv_NumPollsRx + 1)  |  |         | (9)      |
| 26 |       | [(tcv_NumPollsRx = 1) AND (<br>tcv_NumTimeouts = 0)]   |  |         | (10)     |

|    |       | Test Case Dynamic  | Behaviour   |         |               |
|----|-------|--|---|---------|---------------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments      |
| 27 |       | [( tcv_NumPollsRx = 2 ) AND (<br>tcv_NumTimeouts = 0 )]                                      |   |         | (11)          |
| 28 |       | START t_LowerBound(p_T - tcv_Tolerance), START t_UpperBound(p_T + tcv_Tolerance)             |   |         | (12),<br>(13) |
| 29 |       | [( tcv_NumPollsRx = 3 ) AND (<br>tcv_NumTimeouts = 1 )]                                      |   |         | (14)          |
| 30 |       | CANCEL t_UpperBound  |   |         | (15)          |
| 31 | TBF1  | [ (tcv_NumPollsRx = 3) AND<br>(tcv_NumTimeouts <> 1) ]                                       |   | (F)     | (16)          |
| 32 |       | [tcv_NumPollsRx > 3]   |   |         | (17)          |
| 33 | ERR1  | [TRUE]   |   | 1       | (18)          |
| 34 |       | ? TIMEOUT t_TTI  |   |         | (3)           |
| 35 |       | [tcv_NumPDUsTx < (tcv_Count)]  |   |         | (19)          |
| 36 |       | +ts_TxAM_7_PRBS(tsc_P_NoPoll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1) |   |         | (19)          |
| 37 |       | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)  |   |         | (19)          |
| 38 |       | START t_TTI  |   |         | (3)           |
| 39 |       | [TRUE]   |   |         | (20)          |
| 40 | TBF3  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |   | (F)     | (23)          |
|    |       | lt_CheckNumPolls   |   |         |               |
| 41 | TBP1  | [(tcv_NumPollsRx >= 3) AND (tcv_InvalidTimeout = FALSE)]                                     |   | (P)     | (24)          |
| 42 |       | TM!TxStatus  | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(tcv_Count), (2 *<br>(tcv_PayloadSize + 2)) - 5) |         | (26)          |
| 43 | TBF4  | [TRUE]   |   | (F)     |               |
|    |       | lt_CalcNumSDUs(p_W: INTEGER)   |   |         |               |
| 44 |       | [(p_W MOD 6) = 0]  |   |         | (25)          |
| 45 |       | (tcv_Count := (p_W * 6) / 10)  |   |         | (25)          |
| 46 |       | [TRUE]   |   |         | (25)          |
| 47 |       | (tcv_Count := ((p_W * 6) / 10) + 1)  |   |         | (25)          |

- Detailed Comments: (1) Run the procedure with TimerPoll set to 200. Note that the parameter p\_T must correspond to the field u ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPoll in the parameter p\_RLC\_Info.
  - (2) Calculate the timer tolerance for p\_T (Timer\_Poll) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (3) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN (steps 1 to 3 in the expected sequence).
  - (4) The t\_Poll timer is used to ensure that PDUs are received with the poll bit set. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive verdict.
  - (5) Send and receive PDUs until ceil(Tx\_Window\_Size \* 60 %) PDUs have been transmitted and 3 poll requests have been received.
  - (6) Check if the number of polls is as expected. Note that the time interval between polls has already been check using timers t\_UpperBound and t\_LowerBound.
  - (7) Receive the next uplink PDU from the UE.
  - (8) Do nothing when the poll bit is not set.
  - (9) If the poll bit is set, increment tcv\_NumPollsRx.

### Detailed Comments: ...

- (10) Do nothing when the first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 7 in the expected sequence).
- (11) The second PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 11 in the expected sequence).
- (12) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll).
- (13) DO NOT send a STATUS PDU acknowledging all received PDUs in order to trigger the poll bit
- (14) The third PDU with the poll bit set has been received and the LowerBound timer has expired once (step 15 in the expected sequence).
- (15) Cancel timer supervising the receipt of the third poll PDU.
- (16) Assign a preliminary FAIL verdict when the third PDU with the poll bit set has been received and the number of expiries of the LowerBound timer is not accordingly (1).
- (17) Ignore poll PDUs after the third one.
- (18) If tcv\_NumPollsRx is 0 or negative, an inconclusive verdict is assigned indicating that a test case error has occured.
- (19) Transmit the next downlink PDU to the UE until ceil(Tx\_Window\_Size \* 60 %) PDUs have been transmitted. Increment tcv\_NumPDUsTx.
- (20) Do nothing when the maximum number of PDUs to be sent has been reached.
- (21) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll). No poll PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
- (22) If the number of timeouts is not compatible with the number of received poll PDUs, indicate an invalid timeout.
- (23) Give a preliminary FAIL verdict if no poll PDU has been received while the timer with the positive tolerance with respect to p\_T was running and indicate an invalid timeout.
- (24) Assign a preliminary PASS verdict when the number of PDUs received with the poll bit set is >=3 and no invalid timeout occurred.
- (25) Calculate ceil(Tx\_Window\_Size \* 60 %) and store the result in tcv\_Count.
- (26) Send a STATUS PDU acknowledging ALL received PDUs. Otherwise Data PDUs with poll bit may be received in the postamble.

Test Case Name : tc\_7\_2\_3\_24

**Group**: RLC/AcknowledgedMode/Polling/

Purpose : 1. To verify that no poll is transmitted if one or several polls are triggered when the

Timer\_Poll\_Prohibit timer is active and has not expired.

2. To verify that the UE polls only once after Timer\_Poll\_Prohibit expires even though triggered

several times during the prohibit time.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clauses 9.5, 9.7.1 and 11.3.2.1.1.

Selection Ref :

**Description**: Polling for status / Operation of timer Timer\_Poll\_Prohibit

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard(300)   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +lt_TimerPollProhibitTest(cds_RLC_InfoAM_7_<br>2_3_24, 500)  |                 |         | (1)      |
| 4  |       | +po_GenericCleanupProcedures   |                 |         |          |
|    |       | lt_TimerPollProhibitTest(p_RLC_Info: RLC_Info; p_T: INTEGER)   |                 |         |          |
| 5  |       | +pr_RB_SetupAM7(p_RLC_Info)  |                 |         |          |
| 6  |       | +pr_CloseUE_TestLoop((tcv_PayloadSize - 1) * 8)  |                 |         |          |
| 7  |       | (tcv_NumPDUsTx:= 0,<br>tcv_NumPollsRx:= 0,<br>tcv_NumTimeouts:= 0,<br>tcv_Count := (2 * 2) +p_T / tsc_TTI,<br>tcv_RLC_WaitForPoll:= FALSE) |                 |         |          |
| 8  |       | +ts_RLC_CalcTolerance(p_T)   |                 |         | (2)      |
| 9  |       | START t_TTI  |                 |         | (3)      |
| 10 |       | START t_Poll   |                 |         | (4)      |
| 11 | TBS   | (tcv_TestBody:= TRUE)  |                 |         |          |
| 12 |       | REPEAT It_TxAndRx(p_T) UNTIL<br>[((tcv_NumPDUsTx >= tcv_Count)   |                 |         | (5)      |
|    |       | AND (tcv_AMD_SeqNum<br>=INT_TO_BIT(tcv_Count - 1,12))  |                 |         |          |
|    |       | AND (tcv_NumPollsRx >= 2))   |                 |         |          |
|    |       | OR (tcv_InvalidTimeout = TRUE)]  |                 |         |          |
| 13 |       | (tcv_RLC_WaitForPoll:= TRUE)   |                 |         |          |
| 14 |       | REPEAT It_TxAndRx(p_T) UNTIL<br>[(tcv_RLC_WaitForPoll = FALSE)]  |                 |         | (23)     |
| 15 |       | +lt_CheckNumPolls  |                 |         | (6)      |
| 16 | TBE   | (tcv_TestBody:= FALSE)   |                 |         |          |
| 17 |       | CANCEL t_TTI   |                 |         |          |
| 18 |       | CANCEL t_Poll  |                 |         |          |
| 19 |       | +po_OpenUE_TestLoop  |                 |         |          |
|    |       | lt_TxAndRx(p_T: INTEGER)   |                 |         |          |
| 20 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |                 |         | (19)     |
| 21 | TBF3  | [ tcv_NumPollsRx <> tcv_NumTimeouts ]<br>(tcv_InvalidTimeout := TRUE)  |                 | (F)     | (20)     |

|    |       | Test Case Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 22 |       | [ tcv_NumPollsRx = tcv_NumTimeouts ]   |   |         |          |
| 23 |       | TM ? RxAMD (tcv_AMD_PDU:= RxAMD.data, tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum)  | car_DataInd(tsc_RB_AM_7<br>_RLC,<br>cr_AMD_LI_Data(c_LIs1_7<br>BitLI(tcv_PayloadSize - 1),<br>*))                               |         | (7)      |
| 24 |       | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]  |   |         | (8)      |
| 25 |       | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]  |   |         | (9)      |
| 26 |       | (tcv_NumPollsRx:= tcv_NumPollsRx + 1,  |   |         | (9)      |
|    |       | tcv_RLC_WaitForPoll:= FALSE)   |   |         |          |
| 27 |       | [(( tcv_NumPollsRx = 1 ) AND ( tcv_NumTimeouts = 0 )) OR (( tcv_NumPollsRx = 2 ) AND ( tcv_NumTimeouts = 1 ))]         |   |         | (10)     |
| 28 |       | START t_LowerBound(p_T -<br>tcv_Tolerance), START t_UpperBound(p_T<br>+ tcv_Tolerance)                                 |   |         | (11)     |
| 29 |       | [(( tcv_NumPollsRx = 2 ) AND (<br>tcv_NumTimeouts = 1 )) OR ((<br>tcv_NumPollsRx = 3 ) AND (<br>tcv_NumTimeouts = 2))] |   |         | (12)     |
| 30 |       | CANCEL t_UpperBound  |   |         | (13)     |
| 31 | TBF1  | [( tcv_NumPollsRx <= 3 ) AND (<br>tcv_NumPollsRx <> tcv_NumTimeouts + 1 )]   |   | (F)     | (15)     |
| 32 | TBP2  | [tcv_NumPollsRx > 3]   |   | (P)     | (14)     |
| 33 | ERR1  | [TRUE]   |   | 1       | (16)     |
| 34 |       | ? TIMEOUT t_TTI  |   |         | (3)      |
| 35 |       | [(tcv_NumPDUsTx < tcv_Count)]  |   |         | (17)     |
| 36 |       | +ts_TxAM_7_PRBS(tsc_P_NoPoll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1)                           |   |         | (17)     |
| 37 |       | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)  |   |         | (17)     |
| 38 |       | START t_TTI  |   |         | (3)      |
| 39 |       | [TRUE]   |   |         | (18)     |
| 40 | TBF4  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |   | (F)     | (21)     |
|    |       | It_CheckNumPolls   |   |         |          |
| 41 | TBP1  | [(tcv_NumPollsRx >= 3) AND (tcv_InvalidTimeout = FALSE)]   |   | (P)     | (22)     |
| 42 |       | TM! TxStatus   | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2 * (tcv_PayloadSize + 2))<br>- 5) |         | (23)     |
| 43 | TBF5  | [TRUE]   |   | (F)     |          |

**Detailed Comments**: (1) Run the procedure with TimerPollProhibit set to 500. Note that the parameter p\_T must correspond to the field u ul\_RLC\_Mode.ul\_AM\_RLC\_Mode.pollingInfo.timerPollProhibit in the parameter p\_RLC\_Info.

<sup>(2)</sup> Calculate the timer tolerance for p\_T (Timer\_Poll\_Prohibit) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.

<sup>(3)</sup> The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an

#### Detailed Comments : ...

- appropriate 'small' period of time between transmissions from the TTCN (steps 1 to 3 in the expected sequence).
- (4) The t\_Poll timer is used for noting when PDUs are received with the poll bit set. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive verdict indicating that a test case error occured.
- (5) Send and receive PDUs until (2  $^*$  Poll\_PDU) +ceil(T / TTI) PDUs have been transmitted and at least 2 poll requests have been received.
- (6) Check if the number of polls is as expected. Note that the time interval between polls has already been check using timers t\_UpperBound and t\_LowerBound.
- (7) Receive the next uplink PDU from the UE.
- (8) Do nothing if the poll bit is not set.
- (9) If the poll bit is set, increment tcv\_NumPollsRx.
- (10) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 7 in the expected sequence) resp. the 2nd PDU with the poll bit set has been received and the LowerBound timer has expired once (test requirement 2).
- (11) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll\_Prohibited).
- (12) The second PDU with the poll bit set has been received and the LowerBound timer has expired once (step 11 in the expected sequence) resp. the 3rd PDU with the poll bit set has been received and the LowerBound timer has expired twice (test requirement 2).
- (13) Cancel the timer supervising the receipt of the second poll PDU.
- (14) More than 3 polls may be received if the transmission will not be done every TTI.
- (15) Assign a preliminary FAIL verdict when a PDU with the poll bit set has been received and the number of expiries of the LowerBound timer is not accordingly set.
- (16) If tcv\_NumPollsRx is 0 or negative, an inconclusive verdict is assigned indicating that a test case error has occured.
- (17) When the maximum number of PDUs to be transmitted is not yet reached ((2 \* Poll\_PDU) +ceil(T / TTI) PDUs): transmit the next downlink PDU to the UE and increment tcv\_NumPDUsTx.
- (18) Do nothing when the maximum number of PDUs to be transmitted has been reached.
- (19) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer\_Poll\_Prohibit). No poll PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
- (20) If the number of timeouts is not compatible with the number of received poll PDUs, indicate an invalid timeout.
- (21) Give a preliminary FAIL verdict if no poll PDU has been received while the timer with the positive tolerance with respect to  $p_T$  was running and indicate an invalid timeout.
- (22) Assign a preliminary PASS verdict when the number of PDUs received with the poll bit set is >=3 and no invalid timeout occurred.
- (23) Wait for the next poll bit and send a STATUS PDU immediately, acknowledging ALL received PDUs. Otherwise Data PDUs with poll bit may be received in the postamble.

Test Case Name : tc\_7\_2\_3\_25

**Group**: RLC/AcknowledgedMode/RxStatusTriggers/

**Purpose**: To verify that a status report is transmitted if there are one or more missing PDUs.

Configuration :

Default : RLC\_Default

Comments : References: TS 25.322 clause 9.7.2

Selection Ref :

**Description**: Receiver Status Triggers / Detection of missing PDUs

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|------------------|---------|----------|
| 1  |       | START t_Guard( 300 )   |                  |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                  |         |          |
| 3  |       | +pr_RB_SetupAM7( cbs_DefaultRLC_InfoAM )   |                  |         |          |
| 4  | TBS   | ( tcv_TestBody := TRUE )   |                  |         |          |
| 5  |       | REPEAT ts_TxAM_7_PRBS(<br>tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),   |                  |         | 1.       |
|    |       | tcv_PayloadSize - 1)<br>UNTIL[tcv_AM_VTS = 7]                                      |                  |         |          |
| 6  |       | +ts_IncrementAM_VTS  |                  |         | 2.       |
| 7  |       | +ts_TxAM_7_PRBS(<br>tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),         |                  |         | 3.       |
|    |       | tcv_PayloadSize – 1)   |                  |         |          |
| 8  |       | +lt_RxStatusPDU7Missing  |                  |         |          |
| 9  |       | REPEAT ts_TxAM_7_PRBS(   |                  |         | 4.       |
|    |       | tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize – 1<br>),<br>tcv_PayloadSize – 1 ) |                  |         |          |
|    |       | UNTIL [ tcv_AM_VTS = 13 ]  |                  |         |          |
| 10 |       | +ts_IncrementAM_VTS  |                  |         | 5.       |
| 11 |       | +ts_IncrementAM_VTS  |                  |         | 6.       |
| 12 |       | +ts_TxAM_7_PRBS(   |                  |         | 7.       |
|    |       | tsc_P_NoPoll,<br>c_Lls1_7BitLl(<br>tcv_PayloadSize – 1),                           |                  |         |          |
|    |       | tcv_PayloadSize - 1)   |                  |         |          |
| 13 |       | +lt_RxStatusPDU7And13And<br>14Missing  |                  |         |          |
| 14 |       | (tcv_TestBody := FALSE )   |                  |         |          |
| 15 |       | +po_GenericCleanupProce dures  |                  |         |          |
|    |       | It_RxStatusPDU7Missing   |                  |         |          |
| 16 |       | TM ? RxStatus<br>( tcv_StatusPDU := RxStatus.data )                                | car_StatusInd(   |         |          |
|    |       | ·  | tsc_RB_AM_7_RLC) |         |          |

|    |       | Test Case Dynan   | nic Behaviour                   |         |          |
|----|-------|---|---------------------------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref                 | Verdict | Comments |
| 17 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(  cr_SUFI_Params( INT_TO_BIT(0, tsc_AM_SN_Size), INT_TO_BIT(8, tsc_AM_SN_Size),  *, *, INT_TO_BIT(7, tsc_AM_SN_Size), *, *, *, *),  |                                 |         | 8        |
|    | TDD4  | tcv_StatusPDU.superFieldsAndPadRx ))  |                                 |         |          |
| 18 | TBP1  | [tcv_ResAndSUFIs.result = TRUE]   |                                 | (P)     | 8        |
| 19 | TBF1  | [ tcv_ResAndSUFIs.result = FALSE ]  |                                 | (F)     | 8        |
|    |       | It_RxStatusPDU7And13And14Missing  |                                 |         |          |
| 20 |       | TM ? RxStatus<br>( tcv_StatusPDU := RxStatus.data )   | car_StatusInd( tsc_RB_AM_7_RLC) |         |          |
| 21 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(  |                                 |         | 9        |
|    |       | cr_SUFI_Params( INT_TO_BIT(0, tsc_AM_SN_Size), INT_TO_BIT(15, tsc_AM_SN_Size),  *,  *,  INT_TO_BIT(7, tsc_AM_SN_Size), INT_TO_BIT(13, tsc_AM_SN_Size), INT_TO_BIT(14, tsc_AM_SN_Size)), tcv_StatusPDU.superFieldsAndPadRx)) |                                 |         |          |
| 22 | TBP2  | [ tcv_ResAndSUFIs.result = TRUE ]   |                                 | (P)     | 9        |
| 23 | TBF2  | [ tcv_ResAndSUFIs.result = FALSE ]  |                                 | (F)     | 9        |

**Detailed Comments**: 1. Transmit PDUs with SNs 0 – 6

- 2. Skip PDU with SN 7
- 3. Transmit PDU with SN 84. Transmit PDUs with SNs 9 12
- 5. Skip PDU with SN 13
- 6. Skip PDU with SN 14
- 7. Transmit PDU with SN 15
- 8. Check that PDU 7 is not acknowledged.
- 9. Check that PDUs 7, 13 and 14 are not acknowledged.

Test Case Name : tc\_7\_2\_3\_26

**Group** : RLC/AcknowledgedMode/RxStatusTriggers/

**Purpose**: To verify that a status report is transmitted each time the Timer\_Status\_Periodic timer expires.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clauses 9.5, 9.7.2 and 11.5.2.

Selection Ref :

**Description**: Receiver Status Triggers / Operation of timer Timer\_Status\_Periodic

| Nr | Label | Behaviour Description  | Constraints Ref                    | Verdict | Comments |
|----|-------|--|------------------------------------|---------|----------|
| 1  |       | START t_Guard(300)   |                                    |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                                    |         |          |
| 3  |       | +lt_TimerStatusPeriodicTest(cds_RLC_InfoAM _7_2_3_26, 400)   |                                    |         | (1)      |
| 4  |       | +po_GenericCleanupProcedures   |                                    |         |          |
|    |       | lt_TimerStatusPeriodicTest(p_RLC_Info:<br>RLC_Info; p_T: INTEGER)  |                                    |         |          |
| 5  |       | +pr_RB_SetupAM7(p_RLC_Info)  |                                    |         |          |
| 6  |       | <pre>(tcv_NumPDUsTx:= 0, tcv_NumStatusRx:= 0,<br/>tcv_NumTimeouts:= 0)</pre>                                   |                                    |         |          |
| 7  |       | +ts_RLC_CalcTolerance(p_T)   |                                    |         | (2)      |
| 8  |       | START t_TTI  |                                    |         | (3)      |
| 9  |       | START t_Status   |                                    |         | (4)      |
| 10 | TBS   | (tcv_TestBody:= TRUE)  |                                    |         |          |
| 11 |       | REPEAT It_TxAndRx(p_T) UNTIL<br>[((tcv_NumPDUsTx = (2 * p_T /<br>tsc_TTI))) OR (tcv_InvalidTimeout =<br>TRUE)] |                                    |         | (5)      |
| 12 |       | +lt_CheckNumStatus   |                                    |         | (6)      |
| 13 | TBE   | (tcv_TestBody:= FALSE)   |                                    |         |          |
| 14 |       | (tcv_RLC_IgnoreStatus := TRUE)   |                                    |         | (19)     |
| 15 |       | CANCEL t_TTI   |                                    |         |          |
| 16 |       | CANCEL t_Status  |                                    |         |          |
|    |       | lt_TxAndRx(p_T: INTEGER)   |                                    |         |          |
| 17 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |                                    |         | (15)     |
| 18 | TBF2  | [ tcv_NumStatusRx <> tcv_NumTimeouts ]<br>(tcv_InvalidTimeout := TRUE)   |                                    | (F)     | (16)     |
| 19 |       | [ tcv_NumStatusRx = tcv_NumTimeouts ]  |                                    |         |          |
| 20 |       | TM ? RxStatus  | car_StatusInd(tsc_RB_AM_<br>7_RLC) |         | (7)      |
| 21 |       | (tcv_NumStatusRx:= tcv_NumStatusRx + 1)  |                                    |         | (7)      |
| 22 |       | [( tcv_NumStatusRx = 1 ) AND (<br>tcv_NumTimeouts = 0 )]   |                                    |         | (7)      |
| 23 |       | START t_LowerBound(p_T - tcv_Tolerance),<br>START t_UpperBound(p_T + tcv_Tolerance)                            |                                    |         | (8)      |
| 24 |       | [( tcv_NumStatusRx = 2 ) AND (<br>tcv_NumTimeouts = 1 )]   |                                    |         | (9)      |
| 25 |       | CANCEL t_UpperBound  |                                    |         | (10)     |
| 26 | TBF1  | [( tcv_NumStatusRx <= 2 ) AND (<br>tcv_NumStatusRx <> tcv_NumTimeouts + 1 )]                                   |                                    | (F)     | (11)     |
| 27 |       | [TRUE]   |                                    |         | (12)     |

|    | Test Case Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |  |
| 28 |                             | ? TIMEOUT t_TTI  |                 |         | (3)      |  |  |  |  |
| 29 |                             | [tcv_NumPDUsTx < 2 * p_T / tsc_TTI]  |                 |         | (13)     |  |  |  |  |
| 30 |                             | +ts_TxAM_7_PRBS(tsc_P_NoPoll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1) |                 |         | (13)     |  |  |  |  |
| 31 |                             | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)  |                 |         | (13)     |  |  |  |  |
| 32 |                             | START t_TTI  |                 |         | (3)      |  |  |  |  |
| 33 |                             | [TRUE]   |                 |         | (14)     |  |  |  |  |
| 34 |                             | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |                 | (F)     | (17)     |  |  |  |  |
|    |                             | It_CheckNumStatus  |                 |         |          |  |  |  |  |
| 35 | TBP1                        | [(tcv_NumStatusRx >= 2) AND<br>(tcv_InvalidTimeout = FALSE)]                                 |                 | (P)     | (18)     |  |  |  |  |
| 36 | TBF3                        | [TRUE]   |                 | (F)     |          |  |  |  |  |

- **Detailed Comments**: (1) Run the procedure with TimerStatusPeriodic set to 400. Note that the parameter p\_T must correspond to the field dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.timerStatusPeriodic in the parameter p\_RLC\_Info.
  - (2) Calculate the timer tolerance for p\_T (Timer\_Status\_Periodic) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (3) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN (steps 1 to 3 and 5 to 7 in the expected sequence).
  - (4) The t\_Status timer is used to ensure that STATUS PDUs are received. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive
  - (5) Send and receive PDUs until 2 \* T / TTI PDUs have been transmitted.
  - (6) Check if the number of received STATUS messages is as expected. Note that the time interval between 2 STATUS messages has already been check using timers t\_UpperBound and t\_LowerBound.
  - (7) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 4 in the expected sequence).
  - (8) Start timers with a positive and negative tolerance with respect to p\_T (nominal timeout value of Timer\_Status\_Periodic).
  - (9) The second STATUS PDU has been received and the LowerBound timer has expired once (step 8 in the expected sequence).
  - (10) Cancel the timer supervising the receipt of the second STATUS PDU.
  - (11) Give a preliminary FAIL verdict if the number of received STATUS PDUs is not compatible with the number of timeouts.
  - (12) Ignore received STATUS PDUs after the second one.
  - (13) Transmit the next downlink PDU to the UE until 2 \* T / TTI PDUs have been transmitted. Increment tcv\_NumPDUsTx.
  - (14) Do nothing when the maximum number of PDUs to be transmitted (2 \* T / TTI PDUs) has been reached.
  - (15) Timeout of the timer with a negative tolerance with respect to p\_T (nominal timeout value of Timer Status Periodic). No STATUS PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
  - (16) If the number of timeouts is not compatible with the number of received STATUS PDUs, indicate an invalid timeout.
  - (17) Give a preliminary FAIL verdict if no STATUS PDU has been received while the timer with the positive tolerance with respect to p\_T was running and indicate an invalid timeout.
  - (18) Assign a preliminary PASS verdict when the number of STATUS PDUs received is >=2 and no invalid timeout occurred.
  - (19) If status polling is tested there may be a STATUS PDU received druing the postamble. Should be properly ignored.

Test Case Name : tc\_7\_2\_3\_27

**Group** : RLC/AcknowledgedMode/RxStatusTriggers/

**Purpose**: 1. To verify that a status report is not transmitted while the Timer\_Status\_Prohibit timer is active.

2. To verify that only one status report is sent on the expiry of the Timer\_Status\_Prohibit timer if

several triggers occur while it is active.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 clause 9.7.2

Selection Ref :

**Description**: Receiver Status Triggers / Operation of timer Timer\_Status\_Prohibit

| Nr | Label | Behaviour Description   | Constraints Ref                    | Verdict | Comments |
|----|-------|---|------------------------------------|---------|----------|
| 1  |       | START t_Guard(300)  |                                    |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                                    |         |          |
| 3  |       | +lt_TimerStatusProhibitTest(cds_RLC_InfoAM _7_2_3_27, 200, 500)   |                                    |         | (1)      |
| 4  |       | +po_GenericCleanupProcedures  |                                    |         |          |
|    |       | It_TimerStatusProhibitTest(p_RLC_Info:<br>RLC_Info; p_Tper, p_Tpro: INTEGER)  |                                    |         |          |
| 5  |       | +pr_RB_SetupAM7(p_RLC_Info)   |                                    |         |          |
| 6  |       | (tcv_NumPDUsTx:= 0, tcv_NumStatusRx:= 0, tcv_NumTimeouts:= 0, tcv_Poll:= tsc_P_NoPoll)  |                                    |         |          |
| 7  |       | +ts_RLC_CalcTolerance(p_Tpro)   |                                    |         | (2)      |
| 8  |       | START t_TTI   |                                    |         | (3)      |
| 9  |       | START t_Status  |                                    |         | (4)      |
| 10 | TBS   | (tcv_TestBody:= TRUE)   |                                    |         |          |
| 11 |       | REPEAT It_TxAndRx(p_Tper, p_Tpro) UNTIL [((tcv_NumPDUsTx >= (2 * p_Tpro / tsc_TTI) +(p_Tper / tsc_TTI)) AND (tcv_NumStatusRx >= 2)) OR (tcv_InvalidTimeout = TRUE)] |                                    |         | (5)      |
| 12 |       | +lt_CheckNumStatus  |                                    |         | (6)      |
| 13 | TBE   | (tcv_TestBody:= FALSE)  |                                    |         |          |
| 14 |       | (tcv_RLC_IgnoreStatus := TRUE)  |                                    |         | (22)     |
| 15 |       | CANCEL t_TTI  |                                    |         |          |
| 16 |       | CANCEL t_Status   |                                    |         |          |
|    |       | <pre>lt_TxAndRx(p_Tper, p_Tpro: INTEGER)</pre>  |                                    |         |          |
| 17 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)  |                                    |         | (18)     |
| 18 | TBF1  | [ tcv_NumStatusRx <> tcv_NumTimeouts ] (tcv_InvalidTimeout := TRUE)   |                                    | (F)     | (19)     |
| 19 |       | [ tcv_NumStatusRx = tcv_NumTimeouts ]   |                                    |         |          |
| 20 |       | TM ? RxStatus   | car_StatusInd(tsc_RB_AM_<br>7_RLC) |         | (7)      |
| 21 |       | (tcv_NumStatusRx:= tcv_NumStatusRx + 1)   |                                    |         | (7)      |
| 22 |       | [((tcv_NumStatusRx = 1) AND (<br>tcv_NumTimeouts = 0 )) OR<br>((tcv_NumStatusRx = 2) AND (<br>tcv_NumTimeouts = 1))]  |                                    |         | (8)      |
| 23 |       | START t_LowerBound(p_Tpro – tcv_Tolerance), START t_UpperBound(p_Tpro + tcv_Tolerance)  |                                    |         | (9)      |
| 24 |       | (tcv_Poll:= tsc_P_Poll)   |                                    |         | (10)     |

|    |       | Test Case Dynamic E  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 25 |       | [((tcv_NumStatusRx = 2) AND ( tcv_NumTimeouts = 1 )) OR ((tcv_NumStatusRx = 3) AND ( tcv_NumTimeouts = 2 ))] |                 |         | (11)     |
| 26 |       | CANCEL t_UpperBound  |                 |         | (12)     |
| 27 | TBF3  | [(tcv_NumStatusRx <= 3) AND (<br>tcv_NumStatusRx <> tcv_NumTimeouts + 1 )]                                   |                 | (F)     | (13)     |
| 28 |       | [TRUE]   |                 |         | (14)     |
| 29 |       | ? TIMEOUT t_TTI  |                 |         | (3)      |
| 30 |       | [(tcv_NumPDUsTx < (2 * p_Tpro / tsc_TTI)<br>+(p_Tper / tsc_TTI))]  |                 |         | (15)     |
| 31 |       | +ts_TxAM_7_PRBS(tcv_Poll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1)                     |                 |         | (15)     |
| 32 |       | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)  |                 |         | (15)     |
| 33 |       | START t_TTI  |                 |         | (3)      |
| 34 |       | [tcv_Poll = tsc_P_Poll]  |                 |         | (10)     |
| 35 |       | (tcv_Poll:= tsc_P_NoPoll)  |                 |         | (10)     |
| 36 |       | [TRUE]   |                 |         | (16)     |
| 37 |       | [TRUE]   |                 |         | (17)     |
| 38 | TBF2  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |                 | (F)     | (20)     |
|    |       | It_CheckNumStatus  |                 |         |          |
| 39 | TBP1  | [(tcv_NumStatusRx >= 3) AND<br>(tcv_InvalidTimeout = FALSE)]   |                 | (P)     | (21)     |
| 40 | TBF3  | [TRUE]   |                 | (F)     |          |

- Detailed Comments: (1) Run the procedure with TimerStatusPeriodic set to 200 and TimerStatusProhibit set to 500. Note that the parameter p\_Tper must correspond to the field
  - dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.timerStatusPeriodic in the parameter p\_RLC\_Info. and the parameter p\_Tpro must correspond to the field
  - dl\_RLC\_Mode.dl\_AM\_RLC\_Mode.dl\_RLC\_StatusInfo.timerStatusProhibit in the parameter p\_RLC\_Info.
  - (2) Calculate the timer tolerance for p\_Tpro (Timer\_Status\_Prohibit) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv Tolerance.
  - (3) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN (steps 1 to 3 and 5 to 7 in the expected sequence).
  - (4) The t\_Status timer is used to ensure that STATUS PDUs are received. Expiry of this timer is not expected, but is handled in the RLC\_Default behaviour table, and results in an inconclusive verdict.
  - (5) Send and receive PDUs until (2 \* p\_Tpro / tsc\_TTI) +(p\_Tper / tsc\_TTI) PDUs have been transmitted, and at least two STATUS PDUs have been received.
  - (6) Check if the number of received STATUS messages is as expected. Note that the time interval between 2 STATUS messages has already been check using timers t\_UpperBound and t\_LowerBound.
  - (7) Receive a STATUS PDU from the UE, and increment tcv\_NumStatusRx.
  - (8) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired (step 4 in the expected sequence) resp. the 2nd PDU with the poll bit set has been received and the LowerBound timer expired once (test requirement 2).
  - (9) Start timers with a positive and negative tolerance with respect to p\_Tpro (nominal timeout value of Timer\_Status\_Prohibit).
  - (10) After receiving the first STATUS PDU, tcv\_Poll is set to tsc\_P\_Poll, so that the next PDU transmitted has the poll bit set. Once this PDU has been transmitted, tcv\_Poll is reset to tsc\_P\_NoPoll.
  - (11) The second STATUS PDU has been received and the LowerBound timer has expired once

### Detailed Comments: ...

(step 8 in the expected sequence) resp. the 3rd STATUS PDU has been received and the LowerBound timer has expired twice (test requirement 2).

- (12) Cancel the timer supervising the receipt of the second STATUS PDU.
- (13) Give a preliminary FAIL verdict if the number of STATUS PDUs received is not compatible with the number of timeouts.
- (14) Ignore received STATUS PDUs after the second one.
- (15) Transmit the next downlink PDU using the current value of tcv\_Poll for the poll bit to the UE until (2 \* p\_Tpro / tsc\_TTI) +(p\_Tper / tsc\_TTI) PDUs have been transmitted. Increment tcv\_NumPDUsTx.
- (16) Do nothing when the poll bit is not set.
- (17) Do nothing when the maximum number of PDUs to be transmitted ( $(2 * p\_Tpro + p\_Tper) / tsc\_TTI$ ) has been reached.
- (18) Timeout of the timer with a negative tolerance with respect to p\_Tpro (nominal timeout value of Timer\_Status\_Prohibit). No STATUS PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
- (19) If the number of timeouts is not compatible with the number of received STATUS PDUs, indicate an invalid timeout.
- (20) Give a preliminary FAIL verdict if no STATUS PDU has been received while the timer with the positive tolerance with respect to p\_Tpro was running and indicate an invalid timeout.
- (21) Assign a preliminary PASS verdict when the number of STATUS PDUs received is >=3 and no invalid timeout occurred.
- (22) If status polling is tested there may be a STATUS PDU received druing the postamble. Should be properly ignored.

Test Case Name : tc\_7\_2\_3\_28

**Group**: RLC/AcknowledgedMode/StatusReporting/

Purpose : To verify that if a STATUS PDU is received with a LIST SUFI and the LENGTH

field is set to "0000" that the list is discarded.

Configuration :

Default : RLC\_Default

Comments : References: TS 25.322 Clause 9.2.2.11.4.

Selection Ref :

**Description**: Status reporting / Abnormal conditions / Reception of LIST SUFI with Length

set to zero

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | START t_Guard( 300 )  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                 |         |          |
| 3  |       | +pr_RB_SetupAM7(<br>cds_RLC_InfoAM_7_2_3_28)  |                 |         |          |
| 4  |       | ( tcv_Poll_PDU := 4 )   |                 |         | (1)      |
| 5  |       | +pr_CloseUE_TestLoop((2*<br>tcv_Poll_PDU*tcv_PayloadSize -1)*8<br>)   |                 |         |          |
| 6  | TBS   | ( tcv_TestBody := TRUE )  |                 |         |          |
| 7  |       | REPEAT ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LIsEmpty, tcv_PayloadSize) UNTIL [ tcv_AM_VTS = ( 2 * tcv_Poll_PDU ) - 1 ] |                 |         | (2)      |
| 8  |       | +ts_TxAM_7_PRBS(<br>tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize – 1<br>), tcv_PayloadSize – 1 )               |                 |         | (3)      |
| 9  |       | REPEAT It_RxPDUAndCheckHeader   |                 |         | (4)      |
|    |       | UNTIL [ tcv_AM_VRR = ( 2 * tcv_Poll_PDU ) - 1 ]   |                 |         |          |
| 10 |       | +ts_GetRxAM_PRBS(<br>tcv_PayloadSize - 1)   |                 |         | (5)      |
| 11 |       | +lt_RxPDU(<br>cr_AMD_LI_Data(<br>c_LIs1_7BitLI(<br>tcv_PayloadSize - 1),<br>tcv_AM_RxData.data ) )                |                 |         | (6)      |
| 12 |       | +lt_CheckRxHeader   |                 |         | (7)      |
| 13 | TBP1  | ( tcv_TestBody := FALSE )   |                 | (P)     |          |
| 14 |       | +po_GenericCleanupProced ures   |                 |         |          |
|    |       | lt_RxPDUAndCheckHeader  |                 |         |          |
| 15 |       | +ts_GetRxAM_PRBS( tcv_PayloadSize )   |                 |         | (8)      |
| 16 |       | +lt_RxPDU( cr_AMD_Data (<br>tcv_AM_RxData.data ) )  |                 |         | (9)      |
| 17 |       | +lt_CheckRxHeader   |                 |         | (10)     |
|    |       | It_RxPDU( p_ExpectedPDU: AMD_PDU )  |                 |         |          |
| 18 |       | [TRUE]  |                 |         |          |

|    | Test Case Dynamic Behaviour |  |   |         |          |  |  |  |
|----|-----------------------------|--|---|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref   | Verdict | Comments |  |  |  |
| 19 | RX1                         | TM ? RxAMD<br>(tcv_AMD_PDU := RxAMD.data)                            | car_DataInd(<br>tsc_RB_AM_7_RLC,  |         | (9)      |  |  |  |
| 20 | TBF1                        | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )                          | p_ExpectedPDU ) car_DataInd( tsc_RB_AM_7_RLC,   | (F)     | (9)      |  |  |  |
| 21 |                             | TM ? RxStatus  | cr_AMD_Any ) car_StatusInd( tsc_RB_AM_7_RLC)  |         | (9)      |  |  |  |
| 22 |                             | GOTO RX1   |   |         |          |  |  |  |
|    |                             | lt_CheckRxHeader   |   |         |          |  |  |  |
| 23 |                             | +lt_CheckRxSN  |   |         | (11)     |  |  |  |
| 24 |                             | +lt_CheckRxPollBit   |   |         | (12)     |  |  |  |
| 25 |                             | +ts_IncrementAM_VRR  |   |         | (13)     |  |  |  |
|    |                             | lt_CheckRxSN   |   |         |          |  |  |  |
| 26 |                             | [ tcv_AMD_PDU.seqNum =<br>INT_TO_BIT( tcv_AM_VRR, tsc_AM_SN_Size ) ] |   |         | (11)     |  |  |  |
| 27 | TBF2                        | [TRUE]   |   | (F)     | (11)     |  |  |  |
|    |                             | lt_CheckRxPollBit  |   |         |          |  |  |  |
| 28 |                             | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ]                              |   |         | (12)     |  |  |  |
| 29 |                             | [ tcv_FirstPollRx = FALSE ]  |   |         |          |  |  |  |
| 30 |                             | TM ! TxStatus<br>( tcv_FirstPollRx := TRUE )                         | cas_StatusReq(<br>tsc_RB_AM_7_RLC,  |         | (12)     |  |  |  |
| 31 |                             | [TRUE]   | cs_SF_List1InvLengthAndA ck(     c_SNiLi( 1, 1 ), tcv_AM_VRR ),     (2 * ( tcv_PayloadSize + 2 ) ) - 11 ) |         |          |  |  |  |
| 32 |                             | TM ! TxStatus  | cas_StatusReq(  |         | (12)     |  |  |  |
|    |                             | TW. FASILIA  | tsc_RB_AM_7_RLC,  |         | (12)     |  |  |  |
|    |                             |  | cs_SF_Ack( tcv_AM_VRR   |         |          |  |  |  |
|    |                             |  | ),<br>(2 * (tcv_PayloadSize + 2<br>)) - 5)  |         |          |  |  |  |
| 33 |                             | [TRUE]   |   |         |          |  |  |  |

**Detailed Comments**: (1) Note that the value assigned to tcv\_Poll\_PDU must be the same as the value used for Poll\_PDU in the RB setup message.

- (2) Transmit the first ( (  $2 * Poll_PDU 1$  ) ) \* AM\_7\_PayloadSize octets of SDU 1. (Steps 1 and 2 in the expected sequence)
- (3) Transmit the final AM\_7\_PayloadSize 1 octets of SDU 1 (Step 3 in the expected sequence)
- (4) Receive the first  $((2 * Poll_PDU 1)) * AM_7_PayloadSize$  of looped back SDU 1. (Steps 4 to 12 in the expected sequence)
- (5) Initialise tcv\_AM\_RxData with the last AM\_7\_PayloadSize 1 octets of SDU 1 expected to

### Detailed Comments: ...

i ...

received.

- (6) Receive thelast AM\_7\_PayloadSize 1 octets of SDU 1 (Step 13 in the expected sequence)
- (7) Check the PDU header of the last looped back PDU.
- (8) Initialise tcv\_AM\_RxData with the data expected to be received in PDU N.
- (9) Attempt to receive the expected PDU. Reception of any other PDU results in a preliminary failure verdict. Received STATUS PDUs are explicitly ignored.
- (10) Check the received SN, and respond to any poll requests from the UE.
- (11) Verify that the received SN is correct. This check assumes that all PDUs will arrive in order. If a PDU is retransmitted, then the SN will be out of order, and the UE will fail the test case.
- (12) Transmit a STATUS PDU acknowledging all received PDUs if the poll bit was set in the previous looped back PDU. The first STATUS PDU transmitted contains a LIST SUFI with an invalid length field. (Steps 8 and 11 in the expected sequence)
- (13) Increment tcv\_AM\_VRR to the next expected sequence number.

**Test Case Name** : tc\_7\_2\_3\_32

**Group** : RLC/AcknowledgedMode/Discard/

Purpose : 1. To verify that if VT(DAT) = MaxDAT for any PDU the sender initiates the SDU

discard with explicit signalling procedure.

Configuration:

Default : RLC\_Default

Comments: References: TS 25.322 Clauses 9.4 and 11.3.4.4.

Selection Ref :

**Description**: SDU discard after MaxDAT number of retransmissions

| Nr | Label | Behaviour Description  | Constraints Ref                         | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | START t_Guard( 300 )   |   |         |          |
| 2  |       | +pr_GenericSetupProcedures   |   |         |          |
| 3  |       | <pre>+pr_RB_SetupAM7( cbs_DefaultRLC_InfoAM )</pre>  |   |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( 2 * tcv_PayloadSize - 1 ) * 8 )  |   |         |          |
| 5  |       | ( tcv_NumSDUsTx := 0,<br>tcv_NumPDUsRx := 0,<br>tcv_NumMRWsRx := 0)                              |   |         |          |
| 6  | TBS   | ( tcv_TestBody := TRUE )   |   |         |          |
| 7  |       | REPEAT It_TxSDU UNTIL<br>[ tcv_NumSDUsTx = 2 ]   |   |         | (1)      |
| 8  |       | REPEAT It_RxPDU UNTIL<br>[ ( tcv_NumPDUsRx >= 6 ) AND<br>(tcv_NumMRWsRx = 1) ]                   |   |         | (2)      |
| 9  | TBE   | ( tcv_TestBody := FALSE )  |   |         |          |
| 10 |       | +po_GenericCleanupProcedures   |   |         |          |
|    |       | lt_TxSDU   |   |         |          |
| 11 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )                                     |   |         | (3)      |
| 12 |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 ) |   |         | (3)      |
| 13 |       | ( tcv_NumSDUsTx := tcv_NumSDUsTx + 1 )   |   |         | (3)      |
|    |       | lt_RxPDU   |   |         |          |
| 14 |       | TM ? RxAMD<br>( tcv_AMD_PDU := RxAMD.data )  | car_DataInd(<br>tsc_RB_AM_7_RLC,        |         | (4)      |
|    |       |  | cr_AMD_LI_Data(                         |         |          |
|    |       |  | c_Lls1_7BitLl(<br>tcv_PayloadSize - 1), |         |          |
|    |       |  | *))                                     |         |          |
| 15 |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   | , ,                                     |         | (4)      |
| 16 |       | +lt_UpdateVRH_AndCheckPollBit  |   |         | (4)      |
| 17 |       | TM ? RxAMD   | car_DataInd(                            |         | (4)      |
|    |       | ( tcv_AMD_PDU := RxAMD.data )  | tsc_RB_AM_7_RLC,                        |         |          |
|    |       |  | cr_AMD_Data(* ) )                       |         |          |
| 18 |       | ( tcv_NumPDUsRx := tcv_NumPDUsRx + 1 )   |   |         | (4)      |
| 19 |       | +lt_UpdateVRH_AndCheckPollBit  |   |         | (4)      |
| 20 |       | TM ? RxStatus<br>( tcv_StatusPDU := RxStatus.data )  | car_StatusInd(<br>tsc_RB_AM_7_RLC)      |         | (5)      |

|          |       | Test Case Dynamic  | Behaviour  |         |            |
|----------|-------|--|--|---------|------------|
| Nr       | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments   |
| 21       |       | +lt_CheckStatusPDU   |  |         | (9)        |
| 22       |       | ( tcv_NumMRWsRx := tcv_NumMRWsRx + 1 )   |  |         |            |
| 23       |       | TM ! TxStatus  | cas_StatusReq(<br>tsc_RB_AM_7_RLC,   |         | (6)        |
|          |       |  | cs_SF_MRWAckAndNoMor<br>e(<br>'0000'B,<br>INT_TO_BIT<br>(tcv_AM_VRH, 12)),<br>(2*(tcv_PayloadSize + 2<br>)) - 7) |         |            |
| 24       | TBP1  | [ tcv_NumPDUsRx = 6 ]  |  | (P)     | (7)        |
| 25       | TBF1  | [TRUE]   |  | (F)     | (7)        |
|          |       | lt_UpdateVRH_AndCheckPollBit   |  |         |            |
| 26       |       | +ts_UpdateVRH( tcv_AMD_PDU )   |  |         | (2)        |
| 27<br>28 |       | [ tcv_AMD_PDU.pollingBit = tsc_P_NoPoll ]  |  |         | (8)        |
| 29       |       | [ tcv_AMD_PDU.pollingBit = tsc_P_Poll ] TM ! TxStatus  | cas_StatusReq(   |         | (8)<br>(8) |
| 23       |       | TWE EXCITATION   | tsc_RB_AM_7_RLC,   |         | (0)        |
|          |       |  | cs_SF_Nack0(<br>tcv_AM_VRH),   |         |            |
|          |       |  | ( 2 * ( tcv_PayloadSize + 2<br>) ) – 11 )  |         |            |
|          |       | lt_CheckStatusPDU  |  |         |            |
| 30       |       | <pre>( tcv_ResAndSUFIs := o_SUFI_Handler(     cr_SUFI_Params(     *,</pre> |  |         | (9)        |
| 31       | TBP3  | [tcv_ResAndSUFIs.result = TRUE]  |  | (P)     | (9)        |
| 32       | TBF4  | [tcv_ResAndSUFIs.result = FALSE]   |  | (F)     | (9)        |

**Detailed Comments**: (1) Send two RLC SDUs of size 2 \* AM\_7\_PayloadSize – 1 bytes. (Steps 1 to 4 of the expected sequence)

- (2) Receive uplink RLC PDUs and respond to all poll requests with a STATUS PDU negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received. Then wait for an MRW command and respond with a valid MRW ACK SUFI.
  2 SDUs of 2 PDUs each including SN=0.
  2 retransmissions of PDU with SN=0. Then MAXDAT-1 transmissions have been done, as maxDAT is set to dat4.
  (Steps 5 to 18 in the expected sequence)
- (3) Send two RLC PDUs containing a segmented RLC SDU. Increment tcv\_NumSDUsTx.
- (4) Receive the next uplink PDU from the UE. Increment tcv\_NumPDUsRx, and check the poll bit.

### Detailed Comments: ...

- (5) Receive a STATUS PDU containing an MRW SUFI. (Step 15 in the expected sequence)
- (6) Respond with a valid MRW\_ACK SUFI. (Step 16 in the expected sequence)
- (7) The MRW SUFI should only be received after the PDU with SN 0 has been retransmitted 2 times, giving a total of 6 PDUs received.
- (8) If the poll bit is set, respond with a STATUS PDU negatively acknowledging the PDU with SN 0, and positively acknowledging all other PDUs. (Steps 8,10, and 12 in the expected sequence)
- (9) Check the presence of MRW SUFI.

Test Case Name : tc\_7\_2\_3\_33

**Group** : RLC/AcknowledgedMode/Reset/

Purpose : 1. To verify that the Reset procedure is initiated when the maximum number of retransmissions has

been exceeded (Reset trigger condition 1) in subclause 11.4.2 of 3GPP TS 25.322 (R1999).

2. To verify that the sender resets state variables to their initial value and resets configurable

parameters to their configured value.
3. To verify that RSN is updated correctly.
4. To verify operation of Timer\_RST.

Configuration

Default : RLC\_Default

Comments : References: TS 25.322 Clause 11.4.

Selection Ref :

**Description**: Operation of the RLC Reset procedure / UE Originated

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | START t_Guard(300)   |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures   |                 |         |          |
| 3  |       | +pr_RB_SetupAM7(cds_RLC_InfoAM_7_2_3_<br>33)   |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop((2 * tcv_PayloadSize - 1) * 8)  |                 |         |          |
| 5  |       | (tcv_NumSDUsTx:= 0, tcv_NumResetsRx:= 0, tcv_NumTimeouts:= 0, tcv_CheckNextUplinkSN_ls0:= FALSE, tcv_CheckDataPart2:= FALSE) |                 |         |          |
| 6  |       | +ts_RLC_CalcTolerance(500)   |                 |         | (1)      |
| 7  |       | START t_Reset(7500)  |                 |         |          |
| 8  | TBS   | (tcv_TestBody:= TRUE)  |                 |         |          |
| 9  |       | REPEAT It_TxSDU UNTIL<br>[tcv_NumSDUsTx = 2]   |                 |         | (2)      |
| 10 |       | REPEAT It_RxPDU UNTIL<br>[(tcv_NumResetsRx >= 4) OR<br>(tcv_InvalidTimeout = TRUE)]  |                 |         | (3)      |
| 11 |       | +lt_CheckNumResets   |                 |         | (4)      |
| 12 | TBE   | (tcv_TestBody:= FALSE)   |                 |         |          |
| 13 |       | CANCEL t_Reset   |                 |         |          |
| 14 |       | +po_GenericCleanupProced ures  |                 |         |          |
|    |       | lt_TxSDU   |                 |         |          |
| 15 |       | +ts_TxAM_7_PRBS(tsc_P_NoPoll, c_LIsEmpty, tcv_PayloadSize)   |                 |         | (5)      |
| 16 |       | (tcv_AM_SDU_DataPart1 := tcv_AM_TxData.data)   |                 |         | (5)      |
| 17 |       | +ts_TxAM_7_PRBS(tsc_P_NoPoll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1)                                 |                 |         | (5)      |
| 18 |       | (tcv_AM_SDU_DataPart2 :=<br>tcv_AM_TxData.data)  |                 |         | (5)      |
| 19 |       | (tcv_NumSDUsTx:= tcv_NumSDUsTx + 1)  |                 |         | (5)      |
|    |       | lt_RxPDU   |                 |         |          |
| 20 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)   |                 |         | (16)     |
| 21 | TBF7  | [ tcv_NumResetsRx <> tcv_NumTimeouts ] (tcv_InvalidTimeout := TRUE)  |                 | (F)     | (17)     |

|    |           | Test Case Dynamic   | Behaviour   |         |          |
|----|-----------|---|---|---------|----------|
| Nr | Label     | Behaviour Description   | Constraints Ref   | Verdict | Comments |
| 22 |           | [ tcv_NumResetsRx = tcv_NumTimeouts ]   |   |         |          |
| 23 |           | TM ? RxAMD (tcv_AMD_PDU:= RxAMD.data)   | car_DataInd(tsc_RB_AM_7 _RLC, cr_AMD_LI_Data(c_LIs1_7 BitLI(tcv_PayloadSize – 1),*))                                |         | (6)      |
| 24 |           | +lt_UpdateVRH_AndCheckPollBit   | , , , ,   |         | (6)      |
| 25 |           | [(tcv_CheckDataPart2 = TRUE)]   |   |         |          |
| 26 |           | (tcv_CheckDataPart2:= FALSE)  |   |         | (23)     |
| 27 | TBP1<br>1 | [tcv_AMD_PDU.data =<br>tcv_AM_SDU_DataPart2]  |   | (P)     | (23)     |
| 28 | TBF11     | [TRUE]  |   | (F)     | (23)     |
| 29 |           | [TRUE]  |   |         | (6)      |
| 30 |           | TM ? RxAMD (tcv_AMD_PDU:= RxAMD.data)   | car_DataInd(tsc_RB_AM_7<br>_RLC, cr_AMD_Data(*))  |         | (6)      |
| 31 |           | +lt_UpdateVRH_AndCheckPollBit   |   |         | (6)      |
| 32 |           | [(tcv_CheckNextUplinkSN_Is0 = TRUE)]  |   |         | (7)      |
| 33 |           | (tcv_CheckNextUplinkSN_Is0:= FALSE,   |   |         | (7)      |
| 34 | TBP1      | tcv_CheckDataPart2:= TRUE)<br>[tcv_AMD_PDU.seqNum =<br>'0000000000000'B]            |   | (P)     | (7)      |
| 35 | TBP1      | [tcv_AMD_PDU.data =<br>tcv_AM_SDU_DataPart1]  |   | (P)     | (7)      |
| 36 | TBF10     | [TRUE]  |   | (F)     | (7)      |
| 37 | TBF1      | [TRUE]  |   | (F)     | (7)      |
| 38 |           | [TRUE]  |   |         | (7)      |
| 39 |           | TM ? RxReset (tcv_ResetPDU:= RxReset.data)  | car_ResetInd(tsc_RB_AM_7<br>_RLC, cr_ResetAny)  |         | (8)      |
| 40 |           | (tcv_NumResetsRx:= tcv_NumResetsRx + 1)   |   |         | (8)      |
| 41 |           | [tcv_NumResetsRx = 1]   |   |         | (9)      |
| 42 |           | START t_LowerBound(500 - tcv_Tolerance),<br>START t_UpperBound(500 + tcv_Tolerance) |   |         | (10)     |
| 43 | TBP2      | [tcv_ResetPDU.rsn = '0'B]   |   | (P)     | (9)      |
| 44 | TBF2      | [TRUE]  |   | (F)     | (9)      |
| 45 |           | [(tcv_NumResetsRx = 2) AND (<br>tcv_NumTimeouts = 1 )]                              |   |         | (11)     |
| 46 |           | CANCEL t_UpperBound   |   |         | (12)     |
| 47 |           | TM ! TxReset  | cas_ResetReq(tsc_RB_AM_7_RLC,<br>cs_ResetAck(tcv_ResetPDU.rsn, tcv_ResetPDU.hfni, (2 * (tcv_PayloadSize + 2)) - 7)) |         | (11)     |
| 48 |           | +pr_InitialiseAM_RLC_StateVariables2  |   |         | (11)     |
| 49 |           | +lt_TxSDU   |   |         | (11)     |
| 50 |           | (tcv_CheckNextUplinkSN_Is0:=<br>TRUE)   |   |         | (11)     |
| 51 | TBP3      | [tcv_ResetPDU.rsn = '0'B]   |   | (P)     | (11)     |
| 52 | TBF3      | [TRUE]  |   | (F)     | (11)     |
| 53 | TBF4      | [( tcv_NumResetsRx <= 2 ) AND (<br>tcv_NumResetsRx <> tcv_NumTimeouts + 1 )]        |   | (F)     | (22)     |

|    |       | Test Case Dynamic  | Behaviour  |         |          |
|----|-------|--|--|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
| 54 |       | [tcv_NumResetsRx = 3]  |  |         | (13)     |
| 55 |       | TM ! TxReset   | cas_ResetReq(tsc_RB_AM_<br>7_RLC, cs_ResetAck('0'B,<br>tcv_ResetPDU.hfni, (2 *<br>(tcv_PayloadSize + 2)) - 7)) |         | (13)     |
| 56 | TBP4  | [tcv_ResetPDU.rsn = '1'B]  |  | (P)     | (13)     |
| 57 | TBF5  | [TRUE]   |  | (F)     | (13)     |
| 58 |       | [tcv_NumResetsRx = 4]  |  |         | (14)     |
| 59 |       | TM ! TxReset   | cas_ResetReq(tsc_RB_AM_<br>7_RLC, cs_ResetAck('1'B,<br>tcv_ResetPDU.hfni, (2 *<br>(tcv_PayloadSize + 2)) - 7)) |         | (14)     |
| 60 | TBP5  | [tcv_ResetPDU.rsn = '1'B]  |  | (P)     | (14)     |
| 61 | TBF6  | [TRUE]   |  | (F)     | (14)     |
| 62 |       | [TRUE]   |  |         | (15)     |
| 63 | TBF8  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)                                 |  | (F)     | (18)     |
|    |       | lt_UpdateVRH_AndCheckPollBit   |  |         |          |
| 64 |       | +ts_UpdateVRH(tcv_AMD_PDU)   |  |         | (19)     |
| 65 |       | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]  |  |         | (19)     |
| 66 |       | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]  |  |         | (19)     |
| 67 |       | TM ! TxStatus  | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Nack0(tcv_AM_VRH<br>), (2 * (tcv_PayloadSize +<br>2)) - 11)        |         | (19)     |
|    |       | lt_CheckNumResets  |  |         |          |
| 68 | TBP6  | [(tcv_NumResetsRx = 4) AND (tcv_NumTimeouts = 1) AND (tcv_InvalidTimeout = FALSE)] |  | (P)     | (20)     |
| 69 | TBF9  | [TRUE]   |  | (F)     | (21)     |

- Detailed Comments: (1) Calculate the timer tolerance for 500 ms (Timer\_RST) according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (2) Send two RLC SDUs of size 2 \* AM\_7\_PayloadSize 1 bytes (steps 1 to 4 of the expected sequence).
  - (3) Receive PDUs, and respond to polls as described in steps (b) and (g) of the test procedure until four RESET PDUs have been received.
  - (4) This local tree is used to ensure that exactly 4 RESET PDUs were received.
  - (5) Send two RLC PDUs containing a segmented RLC SDU. Increment tcv\_NumSDUsTx. The transmitted data are memorized in 2 variables so that they become available for copmparison with looped back data.
  - (6) Receive the next uplink PDU from the UE. Update VR(H), and check the poll bit.
  - (7) If the flag tcv CheckNextUplinkSN Is0 is TRUE, the reset procedure has been completed, and the next PDU received must have sequence number 0 (step 22 in the expected sequence). The flag is reset to FALSE and the sequence number is checked. Also the data received is compared to the part 1 of the memorized data sent.
  - (8) Receive a RESET PDU and Increment tcv\_NumResetsRx.
  - (9) If this is the first RESET PDU received, the RSN is expected to be '0'B (step 15 in the expected sequence).
  - (10) Start timers with a positive and negative tolerance with respect to Timer\_RST.
  - (11) If this is the second RESET PDU received, the RSN is expected to be '0'B. A RESET ACK PDU is sent to the UE, and the SS AM RLC state variables are reset to their initial values (except for the PRBS positions). A further SDU of 2 \* AM\_7\_PayloadSize - 1 bytes is transmitted, and the flag tcv\_CheckNextSN\_Is0 is set to TRUE (steps 16 to 19 in the expected sequence).
  - (12) Cancel the timer supervising the receipt of the second RESET PDU.
  - (13) If this is the third RESET PDU received, the RSN is expected to be '1'B. A RESET ACK

### Detailed Comments : ..

PDU is sent to the UE, but with an incorrect RSN (steps 29 and 30 in the expected sequence).

- (14) If this is the fourth RESET PDU received, the RSN is expected to be '1'B. A RESET ACK PDU is sent to the UE with the correct RSN (steps 31 and 32 in the expected sequence).
- (15) Any other RESET PDUs received are ignored.
- (16) Timeout of the timer with a negative tolerance with respect to Timer\_RST. No RESET PDU should have been received while the timer was running. Increase count variable, to indicate that another t\_LowerBound timeout has occurred.
- (17) If the number of timeouts is not compatible with the number of received RESET PDUs, indicate an invalid timeout.
- (18) Give a preliminary FAIL verdict if no RESET PDU has been received while the timer with the positive tolerance with respect to Timer\_RST was running and indicate an invalid timeout.
- (19) Respond to any poll requests with a STATUS PDU negatively acknowledging the PDU with SN 0, and positively acknowledging all other PDUs received.
- (20) Assign a preliminary PASS verdict if the number of received RESET PDUs and timeouts is as expected. Note that the correct time interval between the first 2 received RESET PDUs has already been verified by the use of the timers t\_LowerBound and t\_UpperBound.
- (21) Assign a preliminary FAIL verdict if the number of received RESET PDUs or timeouts is not as expected.
- (22) Assign a preliminary FAIL verdict when a RESET PDUhas been received and the number of expiries of the LowerBound timer is not accordingly.
- (23) If flag tcv\_CheckDataPart2 is raised then the flag is reset to FALSE and the data received is compared to the part 2 of the memorized data sent.

Test Case Name : tc\_7\_2\_3\_34

**Group**: RLC/AcknowledgedMode/Reset/

Purpose : 1. To verify that upon reception of a RESET PDU the receiver responds with a

RESET ACK PDU.

2. To verify that the receiver resets its state variables to their initial value

and resets configurable parameters to their configured value.

Configuration :

Default : RLC\_Default

**Comments**: References: TS 25.322 Clause 11.4.

Selection Ref :

**Description**: Operation of the RLC Reset procedure / UE Terminated

| Nr | Label | Behaviour Description  | Constraints Ref                                   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | START t_Guard( 300 )   |   |         |          |
| 2  |       | +pr_GenericSetupProcedures   |   |         |          |
| 3  |       | +pr_RB_SetupAM7(<br>cds_RLC_InfoAM_7_2_3_34)   |   |         |          |
| 4  | TBS   | ( tcv_TestBody := TRUE )   |   |         |          |
| 5  |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LlsEmpty, tcv_PayloadSize )                                     |   |         | 1        |
| 6  |       | +ts_TxAM_7_PRBS( tsc_P_NoPoll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 ) |   |         | 1        |
| 7  |       | <pre>+ts_TxAM_7_PRBS( tsc_P_NoPoll, c_LIsEmpty, tcv_PayloadSize )</pre>                          |   |         | 1        |
| 8  |       | +ts_TxAM_7_PRBS( tsc_P_Poll,<br>c_Lls1_7BitLl( tcv_PayloadSize - 1 ),<br>tcv_PayloadSize - 1 )   |   |         | 1        |
| 9  |       | +lt_RxAckSN0To3  |   |         | 2        |
| 10 |       | TM! TxReset  | cas_ResetReq(                                     |         | 3        |
|    |       |  | tsc_RB_AM_7_RLC,                                  |         |          |
|    |       |  | cs_Reset( '0'B, '00000000000000000000000000000000 |         |          |
|    |       |  | (2 * ( tcv_PayloadSize + 2<br>)) - 7 ))           |         |          |
| 11 | TBP1  | TM ? RxReset   | car_ResetInd(<br>tsc_RB_AM_7_RLC,                 | (P)     | 4        |
|    |       |  | cr_ResetAck)                                      |         |          |
| 12 |       | +pr_InitialiseAM_RLC_StateVar iables   | ,   |         | 5        |
| 13 |       | +ts_TxAM_7_PRBS(<br>tsc_P_NoPoll, c_LlsEmpty,<br>tcv_PayloadSize )                               |   |         | 6        |
| 14 |       | +ts_TxAM_7_PRBS(<br>tsc_P_Poll, c_LIs1_7BitLI(<br>tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1)  |   |         | 6        |
| 15 |       | +lt_RxAckSN0And1   |   |         |          |
| 16 | TBE   | ( tcv_TestBody :=<br>FALSE )   |   |         |          |
| 17 |       | +po_GenericCleanupPr<br>ocedures   |   |         |          |

|    |       | Test Case Dynan  | nic Behaviour                      |         |          |
|----|-------|--|------------------------------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref                    | Verdict | Comments |
| 18 |       | It_RxAckSN0To3 TM ? RxStatus ( tcv_StatusPDU := RxStatus.data )  | car_StatusInd(<br>tsc_RB_AM_7_RLC) |         | 9        |
| 19 |       | ( tcv_ResAndSUFIs := o_SUFI_Handler(  cr_SUFI_Params( INT_TO_BIT(0, tsc_AM_SN_Size), INT_TO_BIT(3, tsc_AM_SN_Size),  | ISC_RB_AW_7_RLC)                   |         | 9        |
| 20 | TBP3  | *, *, *, *, *, *), tcv_StatusPDU.superFieldsAndPadRx )) [ tcv_ResAndSUFIs.result = TRUE ]  |                                    | (P)     | 9        |
| 21 | TBF2  | [ tcv_ResAndSUFIs.result = FALSE ]   |                                    | (F)     | 9        |
| 22 |       | It_RxAckSN0And1 TM ? RxStatus ( tcv_StatusPDU := RxStatus.data )   | car_StatusInd(<br>tsc_RB_AM_7_RLC) |         | 7        |
| 23 |       | <pre>( tcv_ResAndSUFIs := o_SUFI_Handler(     cr_SUFI_Params(     INT_TO_BIT(0, tsc_AM_SN_Size),     INT_TO_BIT(1, tsc_AM_SN_Size),     *,</pre> |                                    |         | 7        |
| 24 | TBP2  | [ tcv_ResAndSUFIs.result = TRUE ]  |                                    | (P)     | 7        |
| 25 | TBF1  | [ tcv_ResAndSUFIs.result = FALSE ]   |                                    | (F)     | 7        |

Detailed Comments: 1. Send two RLC SDUs of size 2 \* AM\_7\_PayloadSize - 1 bytes. Poll on the last PDU.

(Steps 1 to 4 in the expected sequence)

- 2. Receive a STATUS PDU acknowledging PDUs with SNs 0,1,2, and 3 (Step 5 in the expected sequence)
- 3. Send a RESET PDU to the UE. (Step 6 in the expected sequence)
- 4. Receive the corresponding RESET ACK PDU. (Step 7 in the expected sequence
- 5. Reset the SS AM RLC state variables.
- 6. Send a further RLC SDU of size  $2 * AM_7$ \_PayloadSize 1. The SN of the first PDU will be 0.

(Steps 8 and 9 in the expected sequence)

- 7. Receive a STATUS PDU acknowledging receipt of PDUs with SNs 0 and 1. (Step 10 in the expected sequence)
- 8. This may be another means of acknowledging PDUs 0 and 1. If an inconclusive verdict is assigned here, the test case may need to be updated.

Detailed Comments : ...

9. Receive a STATUS PDU acknowledging receipt of PDUs with SNs 0 to 3. (Step 5 in the expected sequence)  $\,$ 

Test Case Name : tc\_7\_2\_3\_35

**Group** : RLC/AcknowledgedMode/

Purpose : To verify that the UE starts to use the new set of RLC parameters when an already established AM

RLC radio bearer is reconfigured.

Configuration :

**Default** : RLC\_Default

Comments: References: TS 25.321 Clause 8.6.4.9, and TS 25.322 Clause 9.5

Selection Ref :

**Description**: Polling for status / Operation of Timer\_Poll timer / Timer expiry

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | START t_Guard(300)  |                 |         |          |
| 2  |       | +pr_GenericSetupProcedures  |                 |         |          |
| 3  |       | +pr_RB_SetupAM7(cbs_DefaultRLC_InfoAM)  |                 |         |          |
| 4  |       | +pr_CloseUE_TestLoop( ( tcv_PayloadSize - 1 ) * 8 )   |                 |         |          |
| 5  |       | +lt_TestBody  |                 |         |          |
| 6  | TBE   | (tcv_TestBody:= FALSE)  |                 |         |          |
| 7  |       | (tcv_RLC_IgnoreStatus := TRUE)  |                 |         | (27)     |
| 8  |       | CANCEL t_TTI  |                 |         |          |
| 9  |       | +po_OpenUE_TestLoop   |                 |         |          |
| 10 |       | +po_GenericCleanupProcedures  |                 |         |          |
|    |       | It_TestBody   |                 |         |          |
| 11 | TBS   | (tcv_TestBody:= TRUE)   |                 |         |          |
| 12 |       | (tcv_NumPDUsTx:= 0,<br>tcv_NumPollsRx:= 0,<br>tcv_NumTimeouts:=0,<br>tcv_Count := (2 * 1000 / tsc_TTI),<br>tcv_InvalidTimeout:=FALSE,<br>tcv_RLC_WaitForPoll:= FALSE,<br>tcv_StatusReceived:=FALSE) |                 |         |          |
| 13 |       | +ts_RB_ReconfigAM7_RLC_7_2_3_35 ( tsc_DefaultCellId )   |                 |         | (1)      |
| 14 |       | START t_TTI   |                 |         | (2)      |
| 15 |       | REPEAT It_TxAndRx UNTIL [((tcv_NumPDUsTx =tcv_Count) AND(tcv_AMD_SeqNum =INT_TO_BIT((tcv_Count)-1,12))) OR (tcv_InvalidTimeout = TRUE)]   |                 |         | (3)      |
| 16 |       | (tcv_RLC_WaitForPoll:= TRUE)  |                 |         |          |
| 17 |       | REPEAT It_TxAndRx UNTIL [(tcv_RLC_WaitForPoll = FALSE)]   |                 |         | (4)      |
| 18 |       | +lt_CheckNumPolls   |                 |         | (5)      |
|    |       | lt_TxAndRx  |                 |         |          |
| 19 |       | ?TIMEOUT t_LowerBound (tcv_NumTimeouts := tcv_NumTimeouts + 1)  |                 |         | (6)      |
| 20 | TBP1  | [ ( tcv_NumStatusRx = 1) AND ( tcv_NumTimeouts = 1 ) OR ( tcv_NumPollsRx = 1) AND ( tcv_NumTimeouts = 2) ]  |                 | (P)     | (7)      |
| 21 |       | [TRUE]  |                 |         |          |
| 22 | TBF1  | (tcv_InvalidTimeout := TRUE)  |                 | (F)     | (7)      |

|    | - 1   | Test Case Dynamic  | c Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 23 |       | TM ? RxStatus  | car_StatusInd(  |         | (10)     |
|    |       | (tcv_NumStatusRx := tcv_NumStatusRx + 1 )  | tsc_RB_AM_7_RLC)  |         |          |
| 24 |       | [ tcv_NumStatusRx = 1 ]  | ISC_IND_AWI_7_INEO )  |         | (11)     |
| 25 |       | (tcv_Time := 500)  |   |         | (12)     |
| 26 |       | +ts_RLC_CalcTolerance(tcv_Time)  |   |         | (13)     |
| 27 |       | START t_LowerBound(tcv_Time – tcv_Tolerance), START t_UpperBound(tcv_Time + tcv_Tolerance)   |   |         | (14)     |
| 28 |       | (tcv_StatusReceived:=TRUE)   |   |         | (9)      |
| 29 |       | [ tcv_NumStatusRx = 2 ]  |   |         | (15)     |
| 30 | TBP2  | [ (tcv_NumTimeouts = 1)]   |   | (P)     | (16)     |
| 31 |       | CANCEL t_UpperBound  |   |         | (17)     |
| 32 | TBF5  | [ (tcv_NumTimeouts <> 1)]  |   | (F)     | (16)     |
| 33 |       | [ tcv_NumStatusRx > 2 ]  |   |         | (18)     |
| 34 |       | TM ? RxAMD<br>(tcv_AMD_PDU:= RxAMD.data,<br>tcv_AMD_SeqNum:=tcv_AMD_PDU.seqNum)              | car_DataInd(tsc_RB_AM_7 _RLC, cr_AMD_LI_Data(c_LIs1_7 BitLI(tcv_PayloadSize - 1), *)) |         | (8)      |
| 35 |       | +lt_CheckPollBitAndUpdateVars  |   |         | (8)      |
| 36 |       | ? TIMEOUT t_TTI  |   |         | (2)      |
| 37 |       | [tcv_NumPDUsTx < tcv_Count]  |   |         | (9)      |
| 38 |       | (tcv_NumPDUsTx:= tcv_NumPDUsTx + 1)  |   |         | (9)      |
| 39 |       | START t_TTI  |   |         | (2)      |
| 40 |       | [tcv_StatusReceived = FALSE]   |   |         | (9)      |
| 41 |       | +ts_TxAM_7_PRBS(tsc_P_NoPoll,<br>c_Lls1_7BitLI(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1) |   |         | (9)      |
| 42 |       | [tcv_StatusReceived = TRUE]  |   |         | (9)      |
| 43 |       | +ts_TxAM_7_PRBS(tsc_P_Poll,<br>c_Lls1_7BitLl(tcv_PayloadSize - 1),<br>tcv_PayloadSize - 1)   |   |         | (9)      |
| 44 |       | (tcv_StatusReceived:=FALSE)  |   |         | (9)      |
| 45 |       | [TRUE]   |   |         | (9)      |
| 46 | TBF2  | ?TIMEOUT t_UpperBound (tcv_InvalidTimeout := TRUE)   |   | (F)     | (19)     |
|    |       | lt_CheckPollBitAndUpdateVars   |   |         |          |
| 47 |       | +lt_CheckPollBit   |   |         | (8)      |
| 48 |       | +ts_IncrementAM_VRR  |   |         | (8)      |
| 49 |       | (tcv_NumPDUsRx:= tcv_NumPDUsRx + 1)  |   |         | (8)      |
|    |       | lt_CheckPollBit  |   |         |          |
| 50 |       | [tcv_AMD_PDU.pollingBit = tsc_P_NoPoll]  |   |         | (20)     |
| 51 |       | [tcv_AMD_PDU.pollingBit = tsc_P_Poll]  |   |         |          |
| 52 |       | (tcv_NumPollsRx:= tcv_NumPollsRx + 1,<br>tcv_RLC_WaitForPoll:= FALSE)                        |   |         | (21)     |
| 53 |       | [ ( tcv_NumPollsRx = 1 ) AND (<br>tcv_NumTimeouts = 1 ) ]                                    |   |         | (22)     |
| 54 |       | (tcv_Time := 600)  |   |         | (12)     |
| 55 |       | +ts_RLC_CalcTolerance(tcv_Time)  |   |         | (13)     |

|    |       | Test Case Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 56 |       | START t_LowerBound(tcv_Time -<br>tcv_Tolerance), START<br>t_UpperBound(tcv_Time + tcv_Tolerance) |   |         | (14)     |
| 57 | ТВР3  | [ ( tcv_NumPollsRx = 2 ) AND (<br>tcv_NumTimeouts = 2 )]   |   | (P)     | (23)     |
| 58 |       | CANCEL t_UpperBound  |   |         | (17)     |
| 59 |       | TM ! TxStatus  | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2*(tcv_PayloadSize + 2)) -<br>5) |         | (24)     |
| 60 |       | [tcv_NumPollsRx > 2]   |   |         | (25)     |
| 61 |       | TM ! TxStatus  | cas_StatusReq(tsc_RB_AM<br>_7_RLC,<br>cs_SF_Ack(BIT_TO_INT(tcv<br>_AMD_PDU.seqNum) + 1),<br>(2*(tcv_PayloadSize + 2)) -<br>5) |         | (24)     |
| 62 | TBF6  | [TRUE]   |   | (F)     |          |
|    |       | It_CheckNumPolls   |   |         |          |
| 63 | TBP4  | [(tcv_NumPollsRx >= 2) AND(tcv_InvalidTimeout = FALSE)]  |   | (P)     | (26)     |
| 64 | TBF4  | [TRUE]   |   | (F)     |          |

- Detailed Comments: (1) Reconfiguration of the RLC parameters while the test loop is closed (steps 1 2 in the expected sequence).
  - (2) The timer t\_TTI is used to trigger transmission of the next PDU. Each time this timer expires, the next PDU is transmitted, and the timer is restarted. The duration TTI has been selected as an appropriate 'small' period of time between transmissions from the TTCN.
  - (3) Send and receive PDUs until tcv\_Count = 2\*Timer\_Poll\_Periodic/TTI PDUs have been transmitted and PDU with SN = tcv\_Count-1 has been received.
  - (4) Wait for the next poll bit and send a STATUS PDU immediately, acknowledging ALL received PDUs. Otherwise Data PDUs with poll bit may be received in the postamble.
  - (5) Check if the number of polls is as expected. Note that the time interval between polls has already been check using timers t\_UpperBound and t\_LowerBound.
  - (6) Timeout of the timer with a negative tolerance with respect to nominal timeout values of Timer\_Status\_Prohibit resp. Timer\_Poll.
  - (7) The 1st timeout should occur before receipt of the 2nd STATUS PDU. The 2nd timeout should occur before receipt of the 2nd PDU containing a Pollbit set.
  - (8) Receive the next uplink PDU from the UE, and check if the poll bit is set. Also increment the VR(R) state variable, and tcv\_NumPDUsRx.
  - (9) Transmit the next downlink PDU to the UE until tcv\_Count (see (3)) PDUs have been transmitted. Increment tcv\_NumPDUsTx.
  - In case the first STATUS PDU has been received (noted in tcv StatusReceived) set the Poll bit in the next PDU.
  - (10) Receive the next uplink STATUS PDU from the UE. Also increment tcv\_NumStatusRx.
  - (11) The 1st STATUS PDU triggers the time measurement.
  - (12) Timer\_Status\_Prohibit time is set to 500 ms (1st case) resp. Timer\_Poll time is set to 600 ms (2nd case).
  - (13) Calculate the timer tolerance for Timer\_Status\_Prohibit resp. Timer\_Poll according to 34.108 cl. 4.2.3. The tolerance value is stored in tcv\_Tolerance.
  - (14) Start timers with a positive and negative tolerance with respect to Timer\_Status\_Prohibit (1st case) resp. Timer\_Poll (2nd case).
  - (15) The 2nd STATUS PDU finishes the time measurement.
  - (16) 1 Timeout (of t\_LowerBound) must have occurred before.
  - (17) t UpperBound not needed any more for this time measurement.
  - (18) Ignore further STATUS PDUs. The Timer\_STATUS\_Periodic continues to be active.

# Detailed Comments : ...

- (19) Give a preliminary FAIL verdict if no STATUS PDU resp. poll PDU has been received while the timer with the positive tolerance with respect to Timer\_StatusProhibit resp. Timer\_Poll was running and indicate an invalid timeout.
- (20) Do nothing when the poll bit is not set.
- (21) If the poll bit is set, increment tcv\_NumPollsRx
- (22) The first PDU with the poll bit set has been received and the LowerBound timer has not yet expired forTHIS measurement (step 15 in the expected sequence).
- (23) The 2nd PDU with the Pollbit set finishes the time measurement. The 2nd timeout must have occurred before. Note that the 1st timeout is related to the Timer\_Status\_Prohibit measurement.
- (24) Send a STATUS PDU to acknowledge all received PDUs.
- (25) Further polls received are not relevant for the time measurement any more. They are simply acknowledged with STATUS PDUs.
- (26) Assign a preliminary PASS verdict when the number of PDUs received with the poll bit set is >=2 and there is no invalid timeout.

**Test Step Dynamic Behaviour** 

Test Step Name : pr\_CloseUE\_TestLoop( p\_LB\_Size: INTEGER )

Group : Preambles/

Objective : Default :

Comments : This preamble is used to close the UE test loop mode, for the default cellId (tsc\_CellA), and the default

RB used for RLC testing.

Parameters:

p\_LB\_Size: The uplink RLC SDU size in bits. This value will be represented as a

14 bit value in the LB Setup IE, so the valid range is from 0..16383.

Test case variables affected:

tcv\_UE\_TestLoopClosed will be set to TRUE by this test step.

Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | +ts_TC_CloseUE_TestLoop( tsc_DefaultCellId, tsc_UE_TestLoopMode1, c_UE_TestLoopMode1_LB_Setup( p_LB_Size, tcv_RLC_RB_Id)) |                 |         |          |
| 2  |       | ( tcv_UE_TestLoopClosed := TRUE )   |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : pr\_GenericSetupProcedures

: Preambles/ Group

Objective

Default : RRC\_Def1

: This preamble configures the system simulator for AM / UM testing, and then performs the Generic setup procedures as defined in 3G TS 34.108. Comments

Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ px_RAT =fdd ]  |                 |         |          |
| 2  |       | +ts_InitVariables  |                 |         | 1        |
| 3  |       | +lt_InitRLC_Variables  |                 |         | 9        |
| 4  |       | +ts_SS_CreateCellDCH ( tsc_DefaultCellId )   |                 |         |          |
| 5  |       | +ts_SendDefSysInfo( tsc_DefaultCellId )  |                 |         |          |
| 6  |       | +ts_IdleUpdated ( tsc_DefaultCellId )  |                 |         | 3        |
| 7  |       | + It_SendPaging  |                 |         | 4        |
| 8  |       | + It_ReceiveResponseToPaging   |                 |         | 5        |
| 9  |       | + ts_SS_SecurityDownloadStart ( tcv_CN_Domain, tcv_Start)  |                 |         |          |
| 10 |       | +ts_TC_ActivateRB_TestMode(<br>tsc_DefaultCellId)  |                 |         | 6        |
| 11 | TSE1  | [ px_RAT = tdd ]   |                 | 1       | 7        |
| 12 | TSE2  | [TRUE]   |                 | 1       | 8        |
|    |       | It_InitRLC_Variables   |                 |         |          |
| 13 |       | [pc_PS AND ( px_CN_DomainTested = ps_domain)]  |                 |         |          |
| 14 |       | (tcv_CN_Domain := ps_domain,<br>tcv_RLC_PagingCau :=<br>terminatingInteractiveCall,<br>tcv_RLC_EstCau := terminatingInteractiveCall,   |                 |         |          |
|    |       | tcv_RLC_RB_Id := tsc_PS_DefaultRB_Id,<br>tcv_RLC_RAB_Id := tsc_PS_DefaultRAB_Id)   |                 |         |          |
| 15 |       | [pc_CS AND ( px_CN_DomainTested = cs_domain)]  |                 |         |          |
| 16 |       | (tcv_CN_Domain := cs_domain,tcv_RLC_PagingCau := terminatingConversationalCall, tcv_RLC_EstCau := terminatingConversationalCall, tcv_RLC_RB_Id := tsc_CS_DefaultRB_Id, tcv_RLC_RAB_Id := tsc_CS_DefaultRAB_Id) |                 |         |          |
| 17 |       | [TRUE]   |                 | 1       |          |
|    |       | It_SendPaging  |                 |         |          |
| 18 |       | [tcv_CN_Domain = ps_domain]  |                 |         |          |
| 19 |       | +ts_RRC_ConnEst_DCH_MT_PTMSI(  |                 |         |          |
|    |       | tsc_DefaultCellId,<br>tcv_RLC_PagingCau,<br>o_ConvertPTMSI(px_PTMSI_Def),  |                 |         |          |
|    |       | tcv_RLC_EstCau)  |                 |         |          |
| 20 |       | [tcv_CN_Domain = cs_domain]  |                 |         |          |

| erdict | Comments                             |
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**Detailed Comments :** 1. Initialise test case variables ready for system simulator configuration.

- 2. Initialise system simulator with SRBs ready for RRC connection establishment on DCH, with an additional RAB 5 mapped to a TM RLC entity. This RAB will be mapped to the appropriate UE RAB configured as AM or TM, and the RLC test case will create and verify the AM / UM headers.
- 3. Perform idle updated procedure on DCH.

# **Test Step Dynamic Behaviour**

#### Detailed Comments : ...

4. Page UE, and complete mobile terminated RRC connection establishment on DCH.

(Ref 3G TS 34.108 clause 7.1.2)

- 5. Paging response from UE.
- 6. Activate UE RB test mode (Ref 3G TS 34.109 clause 5.2.1)
- Generic setup procedures for TDD are not implemented yet. This value of px\_RAT results in final inconclusive verdict
- 8. Unexpected value of px\_RAT provided.
- 9. Initialize RLC specific variables depending on the doamin to be used

# **Test Step Dynamic Behaviour**

**Test Step Name**: pr\_InitialiseAM\_RLC\_StateVariables2

Group : Preambles/

Objective : Default :

**Comments**: This preamble initialises all test case variables related to AM testing except PRBS positions.

Description :

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|----|-------|-----------------------|-----------------|---------|----------|
| 1  |       | ( tcv_AM_VTS := 0 )   |                 |         |          |
| 2  |       | ( tcv_AM_VRR := 0 )   |                 |         |          |
| 3  |       | ( tcv_AM_VRH := 0 )   |                 |         |          |

#### **Detailed Comments:**

# **Test Step Dynamic Behaviour**

Test Step Name: pr\_InitialiseAM\_RLC\_StateVariables

Group : Preambles/

Objective : Default :

**Comments**: This preamble initialises all test case variables related to AM testing.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|-------------------------|-----------------|---------|----------|
| 1  |       | ( tcv_AM_VTS := 0 )     |                 |         |          |
| 2  |       | ( tcv_AM_VRR := 0 )     |                 |         |          |
| 3  |       | ( tcv_AM_VRH := 0 )     |                 |         |          |
| 4  |       | ( tcv_TxPRBS_Pos := 0 ) |                 |         |          |
| 5  |       | ( tcv_RxPRBS_Pos := 0 ) |                 |         |          |

**Detailed Comments:** 

## **Test Step Dynamic Behaviour**

Test Step Name: pr\_InitialiseUM\_RLC\_StateVariables

Group : Preambles/

Objective : Default :

**Comments**: This preamble initialises all test case variables related to UM testing.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|-------------------------|-----------------|---------|----------|
| 1  |       | ( tcv_UM_VRUS := 0 )    |                 |         |          |
| 2  |       | ( tcv_UM_VTUS := 0 )    |                 |         |          |
| 3  |       | ( tcv_RxPRBS_Pos := 0 ) |                 |         |          |
| 4  |       | ( tcv_TxPRBS_Pos := 0 ) |                 |         |          |

**Detailed Comments:** 

### **Test Step Dynamic Behaviour**

Test Step Name : pr\_RB\_SetupAM15( p\_RLC\_Info: RLC\_Info )

Group : Preambles/

**Objective**: Perform the radio bearer setup procedure as defined in 3G TS 25.331 clause

8.2.1 for an AM RAB requiring 15 bit length indicators.

Default : RRC\_Def1
Comments : Parameters:

p\_RLC\_Info: This parameter is used to allow configuration of the UE RLC parameters as required for each test case. The given value is sent to the UE

within the RADIO BEARER SETUP PDU.

Test case variables affected:

tcv\_RB\_Established is set to TRUE by this test step if the RB is successfully

established.

 $tcv\_Payload Size \ is \ set\ to\ the\ value\ tsc\_AM\_15\_Payload Size\ if\ the\ RB\ is\ successfully\ established.$ 

Description :

| <b>—</b> | ·     |   |                 |         | 1_       |
|----------|-------|---|-----------------|---------|----------|
| Nr       | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 1        |       | [ px_RAT = fdd ]  |                 |         |          |
| 2        |       | +pr_InitialiseAM_RLC_StateVariables   |                 |         |          |
| 3        |       | +ts_RRC_SetUpRAB_AM_15_RLC(   |                 |         |          |
| 4        |       | tsc_DefaultCellId,<br>tcv_RLC_RAB_Id,<br>p_RLC_Info)<br>( tcv_RB_Established := TRUE) |                 |         |          |
|          |       | , – – ,   |                 |         |          |
| 5        |       | ( tcv_PayloadSize :=<br>tsc_AM_15_PayloadSize )                                       |                 |         |          |
| 6        | TSE1  | [ px_RAT = tdd ]  |                 | 1       |          |
| 7        | TSE2  | [TRUE]  |                 | I       |          |

Detailed Comments: 1. The same RB configuration is used for all RLC tests, except for the RLC

Info field, which is passed to the cbs\_RRC\_RB\_SetUp constraint to allow all

RLC parameters to be configured appropriately for each test case.

Test Step Name : pr\_RB\_SetupAM7( p\_RLC\_Info: RLC\_Info )

Group : Preambles/

**Objective**: Perform the radio bearer setup procedure as defined in 3G TS 25.331 clause

8.2.1 for an AM RAB requiring 7 bit length indicators.

Default : RRC\_Def1
Comments : Parameters:

p\_RLC\_Info: This parameter is used to allow configuration of the UE RLC parameters as required for each test case. The given value is sent to the UE

within the RADIO BEARER SETUP PDU.

Test case variables affected:

tcv\_RB\_Established is set to TRUE by this test step if the RB is successfully

established.

tcv\_PayloadSize is set to the value tsc\_AM\_7\_PayloadSize if the RB is successfully established.

Description

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [px_RAT =fdd]  |                 |         |          |
| 2  |       | +pr_InitialiseAM_RLC_StateVariables                  |                 |         |          |
| 3  |       | +ts_RRC_SetUpRAB_AM_7_RLC(                           |                 |         |          |
|    |       | tsc_DefaultCellId,<br>tcv_RLC_RAB_Id,<br>p_RLC_Info) |                 |         |          |
| 4  |       | ( tcv_RB_Established := TRUE )                       |                 |         |          |
| 5  |       | ( tcv_PayloadSize :=<br>tsc_AM_7_PayloadSize )       |                 |         |          |
| 6  | TSE1  | [ px_RAT = tdd ]                                     |                 | 1       |          |
| 7  | TSE2  | [TRUE]   |                 | 1       |          |

Detailed Comments : 1. The same RB configuration is used for most RLC tests, except for the RLC

Info field, which is passed to the cbs\_RRC\_RB\_SetUp constraint to allow all

RLC parameters to be configured appropriately for each test case.

Test Step Name: pr\_RB\_SetupUM15( p\_RLC\_Info: RLC\_Info )

Group : Preambles/

**Objective**: Perform the radio bearer setup procedure as defined in 3G TS 25.331 clause

8.2.1 for a UM RAB requiring 15 bit length indicators.

Default : RRC\_Def1
Comments : Parameters:

p\_RLC\_Info: This parameter is used to allow configuration of the UE RLC parameters as required for each test case. The given value is sent to the UE

within the RADIO BEARER SETUP PDU.

Test case variables affected:

tcv\_RB\_Established is set to TRUE by this test step if the RB is successfully

established.

tcv\_PayloadSize is set to the value tsc\_UM\_15\_PayloadSize if the RB is successfully established.

Description

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ px_RAT = fdd ]                                     |                 |         |          |
| 2  |       | +pr_InitialiseUM_RLC_StateVariables                  |                 |         |          |
| 3  |       | +ts_RRC_SetUpRAB_UM_15_RLC(                          |                 |         |          |
|    |       | tsc_DefaultCellId,<br>tcv_RLC_RAB_Id,<br>p_RLC_Info) |                 |         |          |
| 4  |       | ( tcv_RB_Established := TRUE )                       |                 |         |          |
| 5  |       | ( tcv_PayloadSize :=<br>tsc_UM_15_PayloadSize )      |                 |         |          |
| 6  | TSE1  | [ px_RAT = tdd ]                                     |                 | 1       |          |
| 7  | TSE2  | [TRUE]   |                 | 1       |          |

**Detailed Comments**: 1. The same RB configuration is used for all RLC tests, except for the RLC

Info field, which is passed to the cbs\_RRC\_RB\_SetUp constraint to allow all

RLC parameters to be configured appropriately for each test case.

Test Step Name : pr\_RB\_SetupUM7( p\_RLC\_Info: RLC\_Info )

Group : Preambles/

**Objective**: Perform the radio bearer setup procedure as defined in 3G TS 25.331 clause

8.2.1 for a UM RAB requiring 7 bit length indicators.

Default : RRC\_Def1
Comments : Parameters:

p\_RLC\_Info: This parameter is used to allow configuration of the UE RLC parameters as required for each test case. The given value is sent to the UE

within the RADIO BEARER SETUP PDU.

Test case variables affected:

tcv\_RB\_Established is set to TRUE by this test step if the RB is successfully

established.

tcv\_PayloadSize is set to the value tsc\_UM\_7\_PayloadSize if the RB is successfully established.

Description

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ px_RAT = fdd ]                                     |                 |         |          |
| 2  |       | +pr_InitialiseUM_RLC_StateVariables                  |                 |         |          |
| 3  |       | +ts_RRC_SetUpRAB_UM_7_RLC (                          |                 |         |          |
|    |       | tsc_DefaultCellId,<br>tcv_RLC_RAB_Id,<br>p_RLC_Info) |                 |         |          |
| 4  |       | ( tcv_RB_Established := TRUE )                       |                 |         |          |
| 5  |       | ( tcv_PayloadSize :=<br>tsc_UM_7_PayloadSize )       |                 |         |          |
| 6  | TSE1  | [ px_RAT = tdd ]                                     |                 | 1       |          |
| 7  | TSE2  | [TRUE]   |                 | 1       |          |

Detailed Comments : 1. The same RB configuration is used for most RLC tests, except for the RLC

Info field, which is passed to the cbs\_RRC\_RB\_SetUp constraint to allow all

RLC parameters to be configured appropriately for each test case.

Test Step Name : po\_GenericCleanupProcedures

Group : Postambles/

Objective : To reset the UE to idle mode, and release all SS resources.

Default

Comments : This test step performs the following steps:

1. Opens the test loop (if it was opened during the test)

2. Releases the default radio bearer used for RLC testing (if it is currently

established)

3. Deactivates test mode

4. Releases the RRC connection, and system simulator resources

Test case variables required:

tcv\_UE\_TestLoopClosed is used to determine if the test loop is currently closed. If this variable is

TRUE, the test loop will be opened before releasing the default radio bearer for testing.

tcv\_RB\_Established is used to determine if the RB is currently established. If this variable is TRUE, the

RB will be released.

Description

| Nr | Label | Behaviour Description                            | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | +lt_OpenTestLoop                                 |                 |         |          |
| 2  |       | ( tcv_RB_Established := FALSE )                  |                 |         | 1        |
| 3  |       | +ts_TC_DeactivateRB_TestMode( tsc_DefaultCelIId) |                 |         |          |
| 4  |       | +po_ConnectionAndSS_Rel(<br>tsc_DefaultCellId)   |                 |         |          |
|    |       | lt_OpenTestLoop                                  |                 |         |          |
| 5  |       | [ tcv_UE_TestLoopClosed = TRUE ]                 |                 |         |          |
| 6  |       | +po_OpenUE_TestLoop                              |                 |         |          |
| 7  |       | [ tcv_UE_TestLoopClosed = FALSE ]                |                 |         |          |

Detailed Comments: 1 The RB is is released automatically when the RRC Connection is released, because the

establishment of the RB is noted.

See the relevant ts\_RRC\_SetUpRAB functions called by the RLC preambles.

# **Test Step Dynamic Behaviour**

Test Step Name : po\_OpenUE\_TestLoop

Group : Postambles/

Objective Default

Comments : This postamble is used to open the UE test loop mode for all active RBs in the default cellId

(tsc\_CellA).

Test case variables affected:

tcv\_UE\_TestLoopClosed will be set to FALSE by this test step.

Description

| Nr | Label | Behaviour Description                       | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | +ts_TC_OpenUE_TestLoop( tsc_DefaultCellId ) |                 |         |          |
| 2  |       | ( tcv_UE_TestLoopClosed := FALSE )          |                 |         |          |

Test Step Name: ts\_CreateRxUMD\_PDU(p\_SN: INTEGER; p\_Lls: LenInds; p\_UM\_Data: UM\_Data;

p\_NumHalfOctetsPadding: INTEGER )

Group : UMD/

Objective : Initialise tcv\_UMD\_PDU to contain a new UMD\_PDU according to the given

parameters.

Default : RLC\_Default
Comments : Parameters:

p\_SN: The SN of the PDU to be created. This value will be used as the first parameter in a call to INT\_TO\_BIT, so wildcard values are not permitted.

p\_Lls: The length indicator group for the PDU to be created.

p\_UM\_Data: The data to be included in the PDU.

p\_NumHalfOctetsPadding: It is the callers responsibility to ensure that the number of octets used to represent p\_Lls, p\_UM\_Data, and p\_NumHalfOctetsPadding is exactly equal to the current PDU size.

Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ ( IS_PRESENT( p_Lls.lenInd7_1 ) OR<br>IS_PRESENT( p_Lls.lenInd15_1 ) ) ] |                 |         |          |
| 2  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]   |                 |         |          |
| 3  |       | ( tcv_UMD_PDU := c_UMD_LIs( p_SN, p_LIs, p_UM_Data ) )                     |                 |         |          |
| 4  |       | [ ( p_NumHalfOctetsPadding > 0 ) ]   |                 |         |          |
| 5  |       | ( tcv_UMD_MSG := cr_UMD_MSG_LIs(<br>p_SN, p_LIs, p_UM_Data) )              |                 |         |          |
| 6  | TSE1  | [TRUE]   |                 | (I)     |          |
| 7  |       | ( tcv_UMD_PDU := c_UMD(<br>p_SN,p_UM_Data ) )                              |                 |         |          |
| 8  |       | [TRUE]   |                 |         |          |
| 9  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]   |                 |         |          |
| 10 |       | ( tcv_UMD_PDU := c_UMD( p_SN,<br>p_UM_Data ))                              |                 |         |          |
| 11 |       | [ ( p_NumHalfOctetsPadding = 2 ) ]   |                 |         |          |
| 12 |       | ( tcv_UMD_MSG := cr_UMD_MSG_NoLls(<br>p_SN, p_UM_Data) )                   |                 |         |          |
| 13 | TSE2  | [TRUE]   |                 | (I)     |          |
| 14 |       | ( tcv_UMD_PDU := c_UMD( p_SN,<br>p_UM_Data ))                              |                 |         |          |

**Detailed Comments**: Algorithm:

If any length indicators are present then

If p\_NumHalfOctetsPadding = 0 then

Create PDU with LIs, data, and no padding Else If p\_NumHalfOctetsPadding > 0 then Create PDU with LIs, data, BUT NO padding

Else [ p\_NumHalfOctetsPadding is negative. ]

Assign inconclusive preliminary verdict, and create PDU with LIs, data, and no padding

End If

Else [ No length indicators present ]

If p\_NumHalfOctetsPadding = 0 then

Create PDU with data, no LIs, and no padding

If p\_NumHalfOctetsPadding = 2 then

Create PDU with data, no LIs, and NO padding

[ special case if LI15 does not fit on PDU; Status in this case not possible) ]

Else [ Padding is present, but there is no LI to indicate this. ]

Detailed Comments : ...

Assign inconclusive preliminary verdict, and create PDU with data, no Lls, and no padding
End If
End If

Test Step Name: ts\_CreateTxUMD\_PDU(p\_SN: INTEGER; p\_Lls: LenInds; p\_UM\_Data: UM\_Data;

 $p\_NumHalfOctetsPadding: INTEGER\ )$ 

Group : UMD/

Objective : Initialise tcv\_UMD\_PDU to contain a new UMD\_PDU according to the given

parameters.

Default : RLC\_Default
Comments : Parameters:

p\_SN: The SN of the PDU to be created. This value will be used as the first parameter in a call to INT\_TO\_BIT, so wildcard values are not permitted.

p\_Lls: The length indicator group for the PDU to be created.

p\_UM\_Data: The data to be included in the PDU.

p\_NumHalfOctetsPadding: It is the callers responsibility to ensure that the number of octets used to represent p\_Lls, p\_UM\_Data, and p\_NumHalfOctetsPadding is exactly equal to the current PDU size.

Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [(IS_PRESENT(p_Lls.lenInd7_1)OR<br>IS_PRESENT(p_Lls.lenInd15_1))]                           |                 |         |          |
| 2  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]  |                 |         |          |
| 3  |       | ( tcv_UMD_PDU := c_UMD_LIs( p_SN, p_LIs, p_UM_Data ) )                                      |                 |         |          |
| 4  |       | [ ( p_NumHalfOctetsPadding > 0 ) ]  |                 |         |          |
| 5  |       | ( tcv_UMD_PDU := cs_UMD_LIsAndPad(<br>p_SN, p_LIs, p_UM_Data,<br>p_NumHalfOctetsPadding ) ) |                 |         |          |
| 6  | TSE1  | [TRUE]  |                 | (I)     |          |
| 7  |       | ( tcv_UMD_PDU := c_UMD(<br>p_SN,p_UM_Data ) )   |                 |         |          |
| 8  |       | [TRUE]  |                 |         |          |
| 9  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]  |                 |         |          |
| 10 |       | ( tcv_UMD_PDU := c_UMD( p_SN,<br>p_UM_Data ) )  |                 |         |          |
| 11 |       | [ ( p_NumHalfOctetsPadding = 2 ) ]  |                 |         |          |
| 12 |       | ( tcv_UMD_PDU := cs_UMD_NoLIsAndPad(<br>p_SN, p_UM_Data, 2 ) )                              |                 |         |          |
| 13 | TSE2  | [TRUE]  |                 | (I)     |          |
| 14 |       | ( tcv_UMD_PDU := c_UMD( p_SN,<br>p_UM_Data ) )  |                 |         |          |

**Detailed Comments**: Algorithm:

If any length indicators are present then

If p\_NumHalfOctetsPadding = 0 then

Create PDU with LIs, data, and no padding Else If p\_NumHalfOctetsPadding > 0 then

Create PDU with LIs, data, and padding Else [p\_NumHalfOctetsPadding is negative.]

Assign inconclusive preliminary verdict, and create PDU with LIs, data, and

no padding

End If

Else [ No length indicators present ]

If p\_NumHalfOctetsPadding = 0 then

Create PDU with data, no LIs, and no padding

If p\_NumHalfOctetsPadding = 2 then

Create PDU with data, no LIs, and 2 characters of padding

[ special case if LI15 does not fit on PDU; Status in this case not possible ]

Detailed Comments : ...

Else [ Padding is present, but there is no LI to indicate this. ]

Assign inconclusive preliminary verdict, and create PDU with data, no LIs,

and no padding

End If End If

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_IncrementUM\_VRUS

Group : UMD/

Objective : Increment the UM receive state variable VR(US) by one, modulo 128

Default :
Comments :
Description :

| Nr | Label | Behaviour Description              | Constraints Ref | Verdict | Comments |
|----|-------|------------------------------------|-----------------|---------|----------|
| 1  |       | ( tcv_UM_VRUS := tcv_UM_VRUS + 1 ) |                 |         |          |
| 2  |       | [ tcv_UM_VRUS > 127 ]              |                 |         |          |
| 3  |       | ( tcv_UM_VRUS := 0 )               |                 |         |          |
| 4  |       | [TRUE]                             |                 |         |          |
| 4  |       | [TRUE]                             |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_IncrementUM\_VTUS

Group : UMD/

Objective : Increment the UM transmit state variable VT(US) by one, modulo 128

Default :
Comments :
Description :

| Nr | Label | Behaviour Description              | Constraints Ref | Verdict | Comments |
|----|-------|------------------------------------|-----------------|---------|----------|
| 1  |       | ( tcv_UM_VTUS := tcv_UM_VTUS + 1 ) |                 |         |          |
| 2  |       | [ tcv_UM_VTUS > 127 ]              |                 |         |          |
| 3  |       | ( tcv_UM_VTUS := 0 )               |                 |         |          |
| 4  |       | [TRUE]                             |                 |         |          |
|    |       |                                    |                 |         |          |

Test Step Name: ts\_RxUMD\_PRBS( p\_RB\_ld: SS\_RB\_ldentity; p\_Lls: LenInds; p\_DataSize: INTEGER )

Group

Objective : This test step is used to receive a single UMD RLC PDU containing pseudo random data.

Default : RLC\_Default Comments : Parameters:

p\_RB\_ld: The identifier for the RB to be used for reception of data. This is expected to be one of the

following values, depending on the RLC configuration being tested.

tsc\_RB\_UM\_7\_RLC, tsc\_RB\_UM\_15\_RLC

p\_Lls: The length indicator group expected to be received at the start of the PU. If p\_Lls.lenInd7\_1 and p\_Lls.lenInd15\_1 have both been omitted, it is assumed that all Lls in p\_Lls have been omitted.

p\_DataSize: The number of pseudo random data octets expected to be received. This data may represent segments from multiple RLC SDUs.

The number of half octets required for padding will be calculated, but it is the callers responsibility to ensure that there is a padding LI present if thepadding size is greater than 0.

Test case variables required:

tcv\_RxPRBS\_Pos must be set to the required start position in the PRBS for the data to be transmitted.

tcv\_UM\_VRUS must contain the SN of the next UM RLC PDU to be received.

tcv\_PayloadSize must contain the current RLC PDU size, to support padding calculations.

Test case variables affected:

tcv\_UM\_Data, tcv\_NumHalfOctetsPadding and tcv\_UMD\_PDU are used as temporary working variables by this test step.

tcv\_VRUS is incremented by 1 modulo 128 by this test step to contain the expected SN of the next PDU to be received.

#### Description

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | +ts_GetRxUM_PRBS( p_DataSize )   |  |         | 2        |
| 2  |       | +ts_CalculatePaddingSize( p_Lls, p_DataSize, 0 )                                     |  |         | 3        |
| 3  |       | +ts_CreateRxUMD_PDU( tcv_UM_VRUS, p_Lls, tcv_UM_Data.data, tcv_NumHalfOctetsPadding) |  |         | 4        |
| 4  |       | +ts_IncrementUM_VRUS   |  |         | 5        |
| 5  |       | TM ? RxUMD   | car_DataInd( p_RB_Id, tcv_UMD_PDU )                            |         | 6.1      |
| 6  |       | TM ? RxUMD   | car_DataInd( p_RB_Id,<br>cr_UMD_PDU_Split(tcv_U<br>MD_MSG, *)) |         | 6.2      |
| 7  | TSF1  | TM ? RxUMD   | car_DataInd( p_RB_Id, cr_UMD_Any )                             | (F)     | 7        |

- Detailed Comments: 1. Get the next p\_DataSize octets from the PRBS, and store them in the test case variable tcv\_UM\_Data.
  - 2. Increment the test case variable tcv\_RxPRBS\_Pos according to p\_DataSize.
  - 3. Calculate the number of half octets required for padding, and store the value in tcv\_NumHalfOctetsPadding
  - 4. Initialise the test case variable tcv\_UMD\_PDU according to the given parameters, and the

Detailed Comments: ...

contents of the variables tcv\_UM\_VRUS and tcv\_UM\_Data.

5. Update the UM receive state variable VR(US) (tcv\_UM\_VRUS).

6. Attempt to receive the expected PDU.

6.1 PDU without padding, provided as tcv\_UMD\_PDU

6.2 PDU with padding, provided as tcv\_UMD\_MSG + padding of any value

7. If any other PDU is received, a preliminary failure verdict is assigned.

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_RxUM\_15\_PRBS( p\_Lls: LenInds; p\_DataSize: INTEGER )

Group : UMD/

Objective : This test step is used to receive a single UMD RLC PDU containing pseudo random data, and using 15

bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_RxUMD\_PRBS for parameter descriptions, and variables affected.

Description :

| Nr | Label | Behaviour Description                                 | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | +ts_RxUMD_PRBS( tsc_RB_UM_15_RLC, p_Lls, p_DataSize ) |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_RxUM\_7\_PRBS( p\_Lls: LenInds; p\_DataSize: INTEGER )

Group : UMD/

Objective : This test step is used to receive a single UMD RLC PDU containing pseudo random data, and using 7

bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_RxUMD\_PRBS for parameter descriptions, and variables affected.

Description :

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | +ts_RxUMD_PRBS( tsc_RB_UM_7_RLC, p_Lls, p_DataSize ) |                 |         |          |

Test Step Name : ts\_TxUMD\_PRBS( p\_RB\_ld: SS\_RB\_ldentity; p\_Lls: LenInds; p\_DataSize: INTEGER )

Group

Objective : This test step is used to transmit a single UMD RLC PDU containing pseudo random data.

Default : RLC\_Default Comments : Parameters:

p\_RB\_Id: The identifier for the RB to be used for transmission of data. This is expected to be one of

the following values, depending on the RLC configuration being tested.

tsc\_RB\_UM\_7\_RLC, tsc\_RB\_UM\_15\_RLC

p\_LIs: The length indicator group to be transmitted at the start of the PU. If p Lls.lenInd7 1 and p Lls.lenInd15 1 have both been omitted, it is assumed that all LIs in p\_LIs have been omitted.

p\_DataSize: The number of octets to be sent containing pseudo random data. This data may represent segments from multiple RLC SDUs.

The number of half octets required for padding will be calculated, but it is the callers responsibility to ensure that there is a padding LI present if the padding size is greater than 0.

Test case variables required:

tcv\_TxPRBS\_Pos must be set to the required start position in the PRBS for the data to be transmitted.

tcv\_VTUS must contain the SN of the next UM RLC PDU to be transmitted.

tcv PayloadSize must contain the current RLC PDU size, to support padding calculations.

Test case variables affected:

tcv\_UM\_Data, tcv\_NumHalfOctetsPadding and tcv\_UMD\_PDU are used as temporary working variables by this test step.

tcv\_VTUS is incremented by 1 modulo 128 by this test step.

#### Description

| Nr | Label | Behaviour Description  | Constraints Ref                     | Verdict | Comments |
|----|-------|--|-------------------------------------|---------|----------|
| 1  |       | +ts_GetTxUM_PRBS( p_DataSize )   |                                     |         | 2        |
| 2  |       | +ts_CalculatePaddingSize( p_Lls, p_DataSize, 0 )   |                                     |         | 3        |
| 3  |       | +ts_CreateTxUMD_PDU( tcv_UM_VTUS,<br>p_Lls, tcv_UM_Data.data,<br>tcv_NumHalfOctetsPadding) |                                     |         | 4        |
| 4  |       | TM ! TxUMD   | cas_DataReq( p_RB_ld, tcv_UMD_PDU ) |         | 5        |
| 5  |       | +ts_IncrementUM_VTUS   |                                     |         | 6        |

- **Detailed Comments**: 1. Get the next p\_DataSize octets from the PRBS, and store them in the test case variable tcv\_UM\_Data.
  - 2. Increment the test case variable tcv\_TxPRBS\_Pos according to p\_DataSize.
  - 3. Calculate the number of half octets required for padding, and store the value in tcv\_NumHalfOctetsPadding
  - 4. Initialise the test case variable tcv\_UMD\_PDU according to the given parameters, and the contents of the variables tcv\_UM\_Data, and tcv\_NumHalfOctetsPadding.
  - 5. Transmit the PDU using the given RB Id.
  - 6. Update the UM transmit state variable VT(US) (tcv\_UM\_VTUS)

**Test Step Name**: ts\_TxUM\_15\_PRBS( p\_LIs: LenInds; p\_DataSize: INTEGER )

Group : UMD/

Objective : This test step is used to transmit a single UMD RLC PDU containing pseudo random data, and using

15 bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_TxUMD\_PRBS for parameter descriptions, and variables affected.

Description :

 Nr
 Label
 Behaviour Description
 Constraints Ref
 Verdict
 Comments

 1
 +ts\_TxUMD\_PRBS( tsc\_RB\_UM\_15\_RLC, p\_Lls, p\_DataSize )
 +ts\_TxUMD\_PRBS( tsc\_RB\_UM\_15\_RLC, p\_Lls, p\_DataSize )
 +ts\_TxUMD\_PRBS( tsc\_RB\_UM\_15\_RLC, p\_Lls, p\_Lls, p\_DataSize )
 +ts\_TxUMD\_PRBS( tsc\_RB\_UM\_15\_RLC, p\_Lls, p\_Ll

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_TxUM\_7\_PRBS( p\_Lls: LenInds; p\_DataSize: INTEGER )

Group : UMD/

Objective : This test step is used to transmit a single UMD RLC PDU containing pseudo random data, and using 7

bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_TxUMD\_PRBS for parameter descriptions, and variables affected.

Description :

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | +ts_TxUMD_PRBS( tsc_RB_UM_7_RLC, p_Lls, p_DataSize ) |                 |         |          |

Test Step Name: ts\_CreateAMD\_PDU( p\_SN: INTEGER; p\_Poll: PollingBit;p\_Lls: LenInds; p\_AM\_Data: AM\_Data;

p\_NumHalfOctetsPadding: INTEGER)

Group : AMD/

Objective : Initialise tcv\_AMD\_PDU to contain a new AMD\_PDU according to the given

parameters.

Default : RLC\_Default
Comments : Parameters:

p\_SN: The SN of the PDU to be created. This value will be used as the first parameter in a call to INT\_TO\_BIT, so wildcard values are not permitted. p\_Poll: The value of the polling bit. Permitted values are tsc\_P\_Poll and

tsc P NoPoll.

p\_Lls: The length indicator group for the PDU to be created.

p\_AM\_Data: The data to be included in the PDU.

p\_NumHalfOctetsPadding: It is the callers responsibility to ensure that the number of octets used to represent p\_Lls, p\_AM\_Data, and p\_NumHalfOctetsPadding is exactly equal to the current PDU size.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [(IS_PRESENT(p_Lls.lenInd7_1)OR<br>IS_PRESENT(p_Lls.lenInd15_1))]                                   |                 |         |          |
| 2  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]  |                 |         |          |
| 3  |       | ( tcv_AMD_PDU := cs_AMD_Lls( p_SN, p_Poll, p_Lls, p_AM_Data ))                                      |                 |         |          |
| 4  |       | [(p_NumHalfOctetsPadding > 0)]  |                 |         |          |
| 5  |       | ( tcv_AMD_PDU := cs_AMD_LIsAndPad(<br>p_SN, p_Poll, p_LIs, p_AM_Data,<br>p_NumHalfOctetsPadding ) ) |                 |         |          |
| 6  | TSE1  | [TRUE]  |                 | (I)     |          |
| 7  |       | ( tcv_AMD_PDU := cs_AMD( p_SN, p_Poll, p_AM_Data ) )  |                 |         |          |
| 8  |       | [TRUE]  |                 |         |          |
| 9  |       | [ ( p_NumHalfOctetsPadding = 0 ) ]  |                 |         |          |
| 10 |       | ( tcv_AMD_PDU := cs_AMD( p_SN, p_Poll, p_AM_Data ))   |                 |         |          |
| 11 | TSE2  | [TRUE]  |                 | (I)     |          |
| 12 |       | ( tcv_AMD_PDU := cs_AMD( p_SN, p_Poll, p_AM_Data ) )  |                 |         |          |

**Detailed Comments**: Algorithm:

If any length indicators are present then If p\_NumHalfOctetsPadding = 0 then

Create PDU with LIs, data, and no padding Else If p\_NumHalfOctetsPadding > 0 then Create PDU with LIs, data, and padding Else [p\_NumHalfOctetsPadding is negative]

Assign inconclusive preliminary verdict, and create PDU with LIs, data, and

no padding

End If

Else [length indicators present]

If p\_NumHalfOctetsPadding = 0 then

Create PDU with data, no LIs, and no padding

Else [Padding is present, but there is no LI to indicate this.]

Assign inconclusive preliminary verdict, and create PDU with data, no LIs,

and no padding

End If

End If

Test Step Name : ts\_IncrementAM\_VRR

Group : AMD/
Objective :
Default :

**Comments**: This test step is used to increment the AM VR(R) state variable by one, modulo 4095.

Description :

| Label | Behaviour Description            | Constraints Ref  | Verdict  | Comments   |
|-------|----------------------------------|--|--|--|
|       | ( tcv_AM_VRR := tcv_AM_VRR + 1 ) |  |  |  |
|       | [ tcv_AM_VRR > 4095 ]            |  |  |  |
|       | ( tcv_AM_VRR := 0 )              |  |  |  |
|       | [TRUE]                           |  |  |  |
|       | Label                            | ( tcv_AM_VRR := tcv_AM_VRR + 1 ) [ tcv_AM_VRR > 4095 ] ( tcv_AM_VRR := 0 ) | ( tcv_AM_VRR := tcv_AM_VRR + 1 ) [ tcv_AM_VRR > 4095 ] ( tcv_AM_VRR := 0 ) | ( tcv_AM_VRR := tcv_AM_VRR + 1 ) [ tcv_AM_VRR > 4095 ] ( tcv_AM_VRR := 0 ) |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_IncrementAM\_VTS

Group : AMD/ Objective :

Default :

**Comments**: This test step is used to increment the AM VT(S) state variable by one, modulo 4095.

Description :

| Nr | Label | Behaviour Description            | Constraints Ref | Verdict | Comments |  |  |
|----|-------|----------------------------------|-----------------|---------|----------|--|--|
| 1  |       | ( tcv_AM_VTS := tcv_AM_VTS + 1 ) |                 |         |          |  |  |
| 2  |       | [ tcv_AM_VTS > 4095 ]            |                 |         |          |  |  |
| 3  |       | ( tcv_AM_VTS := 0 )              |                 |         |          |  |  |
| 4  |       | [TRUE]                           |                 |         |          |  |  |
|    |       |                                  |                 |         |          |  |  |

Test Step Name: ts\_TxAMD\_PRBS( p\_RB\_ld: SS\_RB\_ldentity; p\_Poll: PollingBit; p\_Lls: LenInds; p\_DataSize:

INTEGER)

: AMD/ Group

Objective : This test step is used to transmit a single AMD RLC PDU containing pseudo random data.

Default : RLC Default Comments : Parameters:

p\_RB\_Id: The identifier for the RB to be used for transmission of data. This is expected to be one of

the following values, depending on the RLC configuration being tested.

tsc\_RB\_AM\_7\_RLC, tsc\_RB\_AM\_15\_RLC

p Lls: The length indicator group to be transmitted at the start of the PU. If p Lls.lenInd7 1 and p\_Lls.lenInd15\_1 have both been omitted, it is assumed that all Lls in p\_Lls have been omitted.

p\_DataSize: The number of octets to be sent containing pseudo random data. This data may represent segments from multiple RLC SDUs.

The number of half octets required for padding will be calculated, but it is the callers responsibility to ensure that there is a padding LI present if the padding size is greater than 0.

Test case variables required:

tcv\_TxPRBS\_Pos must be set to the required start position in the PRBS for the data to be transmitted.

tcv\_AM\_VTS must contain the SN of the next AM RLC PDU to be transmitted.

tcv\_PayloadSize must contain the current RLC payload size, to support padding calculations.

Test case variables affected:

tcv\_AM\_Data, tcv\_NumHalfOctetsPadding and tcv\_AMD\_PDU are used as temporary working variables by this test step.

### Description

| Nr | Label | Behaviour Description   | Constraints Ref                     | Verdict | Comments |
|----|-------|---|-------------------------------------|---------|----------|
| 1  |       | +ts_GetTxAM_PRBS( p_DataSize )  |                                     |         |          |
| 2  |       | +ts_CalculatePaddingSize( p_Lls, p_DataSize, 0 )  |                                     |         |          |
| 3  |       | +ts_CreateAMD_PDU( tcv_AM_VTS, p_Poll, p_Lls, tcv_AM_TxData.data, tcv_NumHalfOctetsPadding) |                                     |         |          |
| 4  |       | TM ! TxAMD  | cas_DataReq( p_RB_ld, tcv_AMD_PDU ) |         |          |
| 5  |       | +ts_IncrementAM_VTS   |                                     |         |          |

- Detailed Comments: 1. Get the next p\_DataSize octets from the PRBS, and store in the test case variable tcv\_AM\_TxData. Increment the test case variable tcv\_TxPRBS\_Pos according to the given data size.
  - 2. Intialise the test case variable tcv\_AMD\_PDU according to the given parameters.
  - 3. Transmit the PDU using the given RB Id.
  - 4. Updatethe AM transmit state variable VT(S) (tcv\_AM\_VTS)

Test Step Name : ts\_TxAM\_15\_PRBS( p\_Poll: PollingBit; p\_Lls: LenInds; p\_DataSize: INTEGER )

Group : AMD/

Objective : This test step is used to transmit a single AMD RLC PDU containing pseudo random data, and using

15 bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_TxAMD\_PRBS for parameter descriptions, and variables affected.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | +ts_TxAMD_PRBS( tsc_RB_AM_15_RLC, p_Poll, p_Lls, p_DataSize ) |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name: ts\_TxAM\_7\_PRBS( p\_Poll: PollingBit; p\_Lls: LenInds; p\_DataSize: INTEGER )

Group : AMD/

Objective : This test step is used to transmit a single AMD RLC PDU containing pseudo random data, and using 7

bit length indicators.

Default : RLC\_Default

**Comments**: See ts\_TxAMD\_PRBS for parameter descriptions, and variables affected.

Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | +ts_TxAMD_PRBS( tsc_RB_AM_7_RLC, p_Poll, p_Lls, p_DataSize ) |                 |         |          |

Test Step Name : ts\_UpdateVRH( p\_AMD\_PDU: AMD\_PDU )

Group : AMD/
Objective :
Default :

**Comments**: This test step is used to update the VR(H) variable based on the given AMD PDU.

VR(H) is the highest expected state variable, and is set to SN + 1 when a PDU is

received with VR(MR) > SN >= VR(H).

NOTE: This test step does not perform modulo arithmetic, and therefore will only

work up to SN 4095. VR(MR) is not maintained

Parameters:

p\_AMD\_PDU: The latest received PDU to be used for an update of VR(H).

Variables affected:

 $tcv\_AM\_VRH$  will be set to SN + 1 if SN >= the current value of  $tcv\_AM\_VRH$ .

Description

| Nr | Label | Behaviour Description                                | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ tcv_AM_VRH <= BIT_TO_INT(<br>p_AMD_PDU.seqNum ) ]  |                 |         |          |
| 2  |       | (tcv_AM_VRH := BIT_TO_INT(<br>p_AMD_PDU.seqNum) + 1) |                 |         |          |
| 3  |       | [TRUE]   |                 |         |          |

Test Step Name: ts\_GetRxAM\_PRBS(p\_DataSize: INTEGER)

Group : PRBS/

Objective : Extract the next p\_DataSize octets from the PRBS, starting with position

tcv\_RxPRBS\_Pos. Increment tcv\_RxPRBS\_Pos by p\_DataSize modulo tsc\_MaxPRBS\_Pos.

Default :

Comments : This test step is used to initialise tcv\_AM\_RxData with the next p\_DataSize

octets expected to be received from the pseudo random bit sequence.

tcv\_RxPRBS\_Pos is also incremented modulo tsc\_MaxPRBS\_Pos, ready for the next

use of this test step.

Parameters: p\_DataSize:

The number of octets to extract from the PRBS.

Test case variables required:

tcv\_RxPRBS\_Pos must contain the next octet position to be extracted from the

PRBS.

Test case variables affected:

tcv\_AM\_Data will contain the next p\_DataSize octets from the PRBS after this

test step is used.

tcv\_RxPRBS\_Pos will be updated to the octet position directly after the last

octet returned in tcv\_AM\_RxData. tcv\_RxPRBS\_Pos may need to be updated again

before the next use of this test step, if the current loopback mode results

in trunctation of the looped back data.

Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [ p_DataSize <= 0]  |                 |         |          |
| 2  |       | ( tcv_AM_RxData := c_AM_DataStruct(                                 |                 |         |          |
|    |       | OMIT,<br>FALSE))  |                 |         |          |
| 3  |       | [p_DataSize >= 0]   |                 |         |          |
| 4  |       | ( tcv_AM_RxData := c_AM_DataStruct(                                 |                 |         |          |
|    |       | o_GetN_OctetsFromPRBS(<br>tcv_RxPRBS_Pos,<br>p_DataSize),<br>TRUE)) |                 |         |          |
| 5  |       | ( tcv_RxPRBS_Pos := tcv_RxPRBS_Pos + p_DataSize )                   |                 |         |          |
| 6  |       | [ tcv_RxPRBS_Pos >= tsc_MaxPRBS_Pos ]                               |                 |         |          |
| 7  |       | ( tcv_RxPRBS_Pos := tcv_RxPRBS_Pos - tsc_MaxPRBS_Pos )              |                 |         |          |
| 8  |       | [TRUE]  |                 |         |          |

Test Step Name: ts\_GetRxUM\_PRBS(p\_DataSize: INTEGER)

Group : PRBS/

**Objective**: Extract the next p\_DataSize octets from the PRBS, starting with position

tcv\_RxPRBS\_Pos. Increment tcv\_RxPRBS\_Pos by p\_DataSize modulo tsc\_MaxPRBS\_Pos.

Default :

Comments : This test step is used to initialise tcv\_UM\_Data with the next p\_DataSize

octets expected to be received from the pseudo random bit sequence.

tcv\_RxPRBS\_Pos is also incremented modulo tsc\_MaxPRBS\_Pos, ready for the next

use of this test step.

Parameters: p\_DataSize:

The number of octets to extract from the PRBS.

Test case variables required:

tcv\_RxPRBS\_Pos must contain the next octet position to be extracted from the

PRBS.

Test case variables affected:

tcv\_UM\_Data will contain the next p\_DataSize octets from the PRBS after this

test step is used.

tcv\_RxPRBS\_Pos will be updated to the octet position directly after the last octet returned in tcv\_UM\_Data. tcv\_RxPRBS\_Pos may need to be updated again

before the next use of this test step, if the current loopback mode results

in trunctation of the looped back data.

Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ p_DataSize <= 0]   |                 |         |          |
| 2  |       | ( tcv_UM_Data := c_UM_DataStruct( OMIT, FALSE) )   |                 |         |          |
| 3  |       | [ p_DataSize >= 0 ]  |                 |         |          |
| 4  |       | ( tcv_UM_Data := c_UM_DataStruct(     o_GetN_OctetsFromPRBS(     tcv_RxPRBS_Pos,     p_DataSize ) ,     TRUE)) |                 |         |          |
| 5  |       | ( tcv_RxPRBS_Pos := tcv_RxPRBS_Pos + p_DataSize )  |                 |         |          |
| 6  |       | [ tcv_RxPRBS_Pos >= tsc_MaxPRBS_Pos ]  |                 |         |          |
| 7  |       | ( tcv_RxPRBS_Pos := tcv_RxPRBS_Pos -<br>tsc_MaxPRBS_Pos )  |                 |         |          |
| 8  |       | [TRUE]   |                 |         |          |
|    |       |  | ·               |         | .,,      |

Test Step Name: ts\_GetTxAM\_PRBS(p\_DataSize: INTEGER)

Group : PRBS/

Objective : Extract the next p\_DataSize octets from the PRBS, starting with position

tcv\_TxPRBS\_Pos. Increment tcv\_TxPRBS\_Pos by p\_DataSize modulo tsc\_MaxPRBS\_Pos.

Default :

Comments : This test step is used to initialise tcv\_AM\_TxData with the next p\_DataSize

octets to be transmitted from the pseudo random bit sequence. tcv\_TxPRBS\_Pos

is also incremented modulo tsc\_MaxPRBS\_Pos, ready for the next

use of this test step.

Parameters: p\_DataSize:

The number of octets to extract from the PRBS.

Test case variables required:

tcv\_TxPRBS\_Pos must contain the next octet position to be extracted from the

PRBS.

Test case variables affected:

tcv\_AM\_Data will contain the next p\_DataSize octets from the PRBS after this

test step is used.

tcv\_TxPRBS\_Pos will be updated to the octet position directly after the last

octet returned in tcv\_AM\_TxData.

Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [ p_DataSize <= 0]  |                 |         |          |
| 2  |       | ( tcv_AM_TxData := c_AM_DataStruct(                                 |                 |         |          |
|    |       | OMIT,<br>FALSE))  |                 |         |          |
| 3  |       | [p_DataSize >= 0]   |                 |         |          |
| 4  |       | ( tcv_AM_TxData := c_AM_DataStruct(                                 |                 |         |          |
|    |       | o_GetN_OctetsFromPRBS(<br>tcv_TxPRBS_Pos,<br>p_DataSize),<br>TRUE)) |                 |         |          |
| 5  |       | ( tcv_TxPRBS_Pos := tcv_TxPRBS_Pos +<br>p_DataSize )                |                 |         |          |
| 6  |       | [ tcv_TxPRBS_Pos >= tsc_MaxPRBS_Pos ]                               |                 |         |          |
| 7  |       | ( tcv_TxPRBS_Pos := tcv_TxPRBS_Pos -<br>tsc_MaxPRBS_Pos )           |                 |         |          |
| 8  |       | [TRUE]  |                 |         |          |
|    |       |   | -               |         |          |

Test Step Name : ts\_GetTxUM\_PRBS( p\_DataSize: INTEGER )

Group : PRBS/

Objective : Extract the next p\_DataSize octets from the PRBS, starting with position

tcv\_TxPRBS\_Pos. Increment tcv\_TxPRBS\_Pos by p\_DataSize modulo tsc\_MaxPRBS\_Pos.

Default :

Comments : This test step is used to initialise tcv\_UM\_Data with the next p\_DataSize

octets to be transmitted from the pseudo random bit sequence. tcv\_TxPRBS\_Pos

is also incremented modulo tsc\_MaxPRBS\_Pos, ready for the next

use of this test step.

Parameters: p\_DataSize:

The number of octets to extract from the PRBS.

Test case variables required:

tcv\_TxPRBS\_Pos must contain the next octet position to be extracted from the

PRBS.

Test case variables affected:

tcv\_UM\_Data will contain the next p\_DataSize octets from the PRBS after this

test step is used.

tcv\_TxPRBS\_Pos will be updated to the octet position directly after the last

octet returned in tcv\_UM\_Data.

Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | [ p_DataSize <= 0]   |                 |         |          |
| 2  |       | ( tcv_UM_Data := c_UM_DataStruct(<br>OMIT,<br>FALSE) )   |                 |         |          |
| 3  |       | [p_DataSize >= 0]  |                 |         |          |
| 4  |       | ( tcv_UM_Data := c_UM_DataStruct(     o_GetN_OctetsFromPRBS(     tcv_TxPRBS_Pos,     p_DataSize ),     TRUE) ) |                 |         |          |
| 5  |       | ( tcv_TxPRBS_Pos := tcv_TxPRBS_Pos + p_DataSize )  |                 |         |          |
| 6  |       | [ tcv_TxPRBS_Pos >= tsc_MaxPRBS_Pos ]  |                 |         |          |
| 7  |       | ( tcv_TxPRBS_Pos := tcv_TxPRBS_Pos -<br>tsc_MaxPRBS_Pos )  |                 |         |          |
| 8  |       | [TRUE]   |                 |         |          |

Test Step Name : ts\_CalculatePaddingSize( p\_Lls: LenInds; p\_DataSizeOcts, p\_StatusSizeHalfOcts: INTEGER )

Group : Padding/

Objective : Calculate the number of half octets padding required to exactly fill the

current PDU.

Default : RLC Default

Comments : This test step is used to calculate the number of half octets padding required

to exactly fill the payload within an RLC PDU.

In general, the calculation required is as follows:

tcv NumHalfOctetsPadding :=

2 \* ( tcv\_PayloadSize - ( LI\_GroupSizeOcts + p\_DataSize ) ) - p\_StatusSizeHalfOcts

The alternatives used are to determine the size of the LI group.

Parameters:

p\_Lls:

The length indicator group to be included within the RLC PDU. The presence or absence of each LI determines how many octets remain in the payload to be used for data, piggybacked status, and padding.

p\_DataSizeOcts:

The number of data octets included in the payload. Acceptable values are 0 to tcv\_PayloadSize inclusive.

p\_StatusSizeHalfOcts:

The number of half octets used for a piggybacked status PDU. If a piggybacked status PDU is not included in the PDU, then this parameter should be 0.

Test case variables required:

tcv\_PayloadSize must be set to the current payload size in octets.

Test case variables affected:

tcv\_NumHalfOctetsPadding will be set to the number of half octets that must be included to exactly fill an RLC PDU with payload size tcv\_PayloadSize, containing the given LI group, the given number of octets of data, and optionally a

piggybacked status PDU of the given size.

#### Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [ IS_PRESENT( p_Lls.lenInd7_1 ) ]   |                 |         |          |
| 2  |       | [IS_PRESENT(p_Lls.lenInd7_2)]   |                 |         |          |
| 3  |       | [ IS_PRESENT( p_Lls.lenInd7_3 ) ]   |                 |         |          |
| 4  |       | [ IS_PRESENT( p_Lls.lenInd7_4 ) ]   |                 |         |          |
| 5  |       | [ IS_PRESENT( p_Lls.lenInd7_5 ) ]   |                 |         |          |
| 6  |       | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 5 + p_DataSizeOcts )<br>) - p_StatusSizeHalfOcts ) |                 |         |          |
| 7  |       | [TRUE]  |                 |         |          |
| 8  |       | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 4 + p_DataSizeOcts )<br>) - p_StatusSizeHalfOcts ) |                 |         |          |
| 9  |       | [TRUE]  |                 |         |          |
| 10 |       | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 3 + p_DataSizeOcts ) )<br>- p_StatusSizeHalfOcts ) |                 |         |          |
| 11 |       | [TRUE]  |                 |         |          |

|       | Test Step Dynamic Behaviour |   |                 |         |          |  |  |
|-------|-----------------------------|---|-----------------|---------|----------|--|--|
| Nr    | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |
| 12    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 2 + p_DataSizeOcts ) ) -<br>p_StatusSizeHalfOcts ) |                 |         |          |  |  |
| 13    |                             | [TRUE]  |                 |         |          |  |  |
| 14    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 1 + p_DataSizeOcts ) ) -<br>p_StatusSizeHalfOcts ) |                 |         |          |  |  |
| 15    |                             | [ IS_PRESENT( p_Lls.lenInd15_1 ) ]  |                 |         |          |  |  |
| 16    |                             | [IS_PRESENT(p_Lls.lenInd15_2)]  |                 |         |          |  |  |
| 17    |                             | [ IS_PRESENT( p_Lls.lenInd15_3 ) ]  |                 |         |          |  |  |
| 18    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - (6 + p_DataSizeOcts ) ) -<br>p_StatusSizeHalfOcts )  |                 |         |          |  |  |
| 19    |                             | [TRUE]  |                 |         |          |  |  |
| 20    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 4 + p_DataSizeOcts ) ) -<br>p_StatusSizeHalfOcts ) |                 |         |          |  |  |
| 21    |                             | [TRUE]  |                 |         |          |  |  |
| 22    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize - ( 2 + p_DataSizeOcts ) ) -<br>p_StatusSizeHalfOcts ) |                 |         |          |  |  |
| 23    |                             | [TRUE]  |                 |         |          |  |  |
| 24    |                             | ( tcv_NumHalfOctetsPadding := 2 * (<br>tcv_PayloadSize – p_DataSizeOcts ) –<br>p_StatusSizeHalfOcts )         |                 |         |          |  |  |
| Detai | iled Com                    | iments :  |                 |         |          |  |  |

|          | _       | . –     |         |
|----------|---------|---------|---------|
| Test Ste | an Dyna | amic Be | haviour |

Test Step Name : ts\_RLC\_CalcTolerance( p\_Time: INTEGER )

Group : General/

Objective :

Default : RLC\_Default

**Comments**: To calculate timer tolerance according to 34.108 cl. 4.2.3. For msec timers!

Description :

| Nr | Label | Behaviour Description               | Constraints Ref | Verdict | Comments |
|----|-------|-------------------------------------|-----------------|---------|----------|
| 1  |       | [p_Time > ((2*tsc_TTI + 55) * 10)]  |                 |         |          |
| 2  |       | (tcv_Tolerance := (p_Time / 10))    |                 |         |          |
| 3  |       | [p_Time <= ((2*tsc_TTI + 55) * 10)] |                 |         |          |
| 4  |       | (tcv_Tolerance := (2*tsc_TTI + 55)) |                 |         |          |

**Detailed Comments**: Timer tolerance = 10% or 2\*TTI +tdelta whichever value is greater. tdelta is 55 msec.

Test Step Name : ts\_RLC\_Delay( p\_Dly: INTEGER )

Group : General/

Objective :

Default : RLC\_Default

Comments :
Description :

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|----|-------|-----------------------|-----------------|---------|----------|
| 1  |       | START t_Dly(p_Dly)    |                 |         |          |
| 2  |       | ?TIMEOUT t_Dly        |                 |         |          |

Test Step Name : ts\_RB\_ReconfigAM7\_RLC\_7\_2\_3\_35 (p\_CellId:INTEGER)

Group : General/

Objective : Perform the radio bearerReconfiguaration procedure as defined in 3G TS 25.331 clause

8.2.2 for an AM RAB requiring 7 bit length indicators.

Default : RRC\_Def1

**Comments** : Tailored for the needs of tc\_7\_2\_3\_35.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo(p_CellId)   |   |         |          |
| 2  |       | CPHY ! CPHY_Frame_Number_REQ  | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                     |         |          |
| 3  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber) | car_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                     |         |          |
| 4  |       | ( tcv_ActTime := (256 + tcv_FrameNumber -<br>( tcv_FrameNumber MOD 8 + 8)) MOD 256, |   |         |          |
|    |       | tcv_TGCFN := (tcv_FrameNumber + (256 - 4)) MOD 256)                                 |   |         |          |
| 5  |       | +lt_SendRB_Reconfig   |   |         |          |
| 6  |       | AM ? RLC_AM_DATA_CNF  | car_AM_DataMuiCnf(<br>tsc_CellDedicated,<br>tsc_RB2,<br>tsc_Mui |         |          |
| 7  |       | + ts_SaveCellInfo (p_CellId)  |   |         |          |
| 8  |       | +ts_RRC_ReceiveRB_ReconfigCmpl(p<br>_CellId)  |   |         |          |
|    |       | It_SendRB_Reconfig  |   |         |          |
| 9  |       | [ tcv_CN_Domain = cs_domain ]   |   |         |          |
| 10 |       | AM!RLC_AM_DATA_REQ  | cas_RB_ReconfigureWithCn f(                                     |         |          |
|    |       |   | tsc_CellDedicated,  |         |          |
|    |       |   | tsc_RB2,<br>tsc_Mui,  |         |          |
|    |       |   | cs_RRC_RB_Reconfigure (   |         |          |
|    |       |   | tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti,             |         |          |
|    |       |   | tcv_CellIndInfo.dL_Integrity                                    |         |          |
|    |       |   | tcv_ActTime, cell_DCH,  |         |          |
|    |       |   | tsc_DL_DPCH1_SFP_RLC<br>_7BitLl, OMIT,                          |         |          |
|    |       |   | pl1,<br>OMIT,   |         |          |
|    |       |   | c_RB_InfoReconfigList_RL<br>C_7_2_3_35 (tsc_RB10),              |         |          |
|    |       |   | OMIT,   |         |          |
|    |       |   | c_UL_CommTrChInfoRLC_   |         |          |

|  | Test Step Dynamic Behaviour |  |  |  |  |  |  |  |
|--|-----------------------------|--|--|--|--|--|--|--|
| Nr Label Behaviour Description Constraints Ref Verdict | Comments                    |  |  |  |  |  |  |  |
| Nr   | Comments                    |  |  |  |  |  |  |  |

|    | Test Step Dynamic Behaviour |                       |                                     |         |          |  |  |
|----|-----------------------------|-----------------------|-------------------------------------|---------|----------|--|--|
| Nr | Label                       | Behaviour Description | Constraints Ref                     | Verdict | Comments |  |  |
|    |                             |                       | c_DL_AddReconfTransChIn foList2RLC, |         |          |  |  |

Detailed Comments : 1. The same RB configuration is used for most RLC tests, except for the RLC Info field, which is passed to the cbs\_RRC\_RB\_SetUp constraint to allow all RLC parameters to be configured appropriately for each test case.

 $\textbf{Test Step Name} \quad : \ ts\_CalculateActTime \ ( \ p\_CellId: INTEGER \ )$ 

Group : BasicM\_General\_Steps/

**Objective**: To calculate the activation time with the tti value corresponding to the actual SS configuration.

Default : SS\_Def

Comments : The tti value passed as parameter to ts\_CPHY\_ActTime is equal to tti/10 (e.g. tti 40 -> 4)

Based on 34.108 on SRB tti.

Description :

| Nr | Label | Behaviour Description                                    | Constraints Ref | Verdict | Comments       |
|----|-------|--|-----------------|---------|----------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )                         |                 |         |                |
| 2  |       | [ ( tcv_TmpCellInfo.cellConfig =                         |                 |         | An RRC         |
|    |       | cell_DCH_Speech ) OR                                     |                 |         | connecti       |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         | on is          |
|    |       | cell_DCH_64kCS_RAB_SRB ) OR                              |                 |         | establish      |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         | ed.            |
|    |       | cell_DCH_57_6kCS_RAB_SRB )OR                             |                 |         | Use            |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         | DCCH           |
|    |       | cell_DCH_64kPS_RAB_SRB) OR                               |                 |         | on DL<br>DPCH1 |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         | DPCHI          |
|    |       | cell_PDCP_AM_RAB) OR<br>(tcv TmpCellInfo.cellConfig =    |                 |         |                |
|    |       | cell_PDCP_UM_RAB ) OR                                    |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_PDCP_AM_UM_RAB) OR                                  |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_RLC_DCH_AM_RAB_15Lis ) OR                           |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig                             |                 |         |                |
|    |       | =cell_RLC_DCH_AM_RAB_7Lis ) OR                           |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig                             |                 |         |                |
|    |       | =cell_RLC_DCH_UM_RAB_15Lis ) OR                          |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig                              |                 |         |                |
|    |       | =cell_RLC_DCH_UM_RAB_7Lis ) OR (                         |                 |         |                |
|    |       | tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB)OR |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_DCH_StandAloneSRB )OR                               |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_DCH_2AM_PS ) OR                                     |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         |                |
|    |       | cell_DCH_2_PS_Call) OR                                   |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         |                |
|    |       | cell_Two_DTCH_CS_PS )OR                                  |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_Four_DTCH_CS_PS )OR                                 |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_Two_DTCH_PS_CS)OR ( tcv_TmpCellInfo.cellConfig =    |                 |         |                |
|    |       | cell_Four_DTCH_PS_CS )OR                                 |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         |                |
|    |       | cell_Two_DTCH_CS_PS_Init )OR                             |                 |         |                |
|    |       | (tcv_TmpCellInfo.cellConfig =                            |                 |         |                |
|    |       | cell_Four_DTCH_CS_PS_Init)OR                             |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         |                |
|    |       | cell_Two_DTCH_PS_CS_Init )OR                             |                 |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =                           |                 |         |                |
|    |       | cell_Four_DTCH_PS_CS_Init)]                              |                 |         |                |
| 3  |       | + ts_CPHY_ActTime ( p_CellId,                            |                 |         |                |
|    |       | tsc_DL_DPCH1, 4)   |                 |         |                |

|      |          | Test Step Dynamic B   | ehaviour        |         |   |
|------|----------|---|-----------------|---------|---|
| Nr   | Label    | Behaviour Description   | Constraints Ref | Verdict | Comments  |
| 4    |          | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) ]   |                 |         | No RRC connecti on is establish ed Use CCCH configur ation        |
| 5    |          | + ts_CPHY_ActTime ( p_CellId, tsc_S_CCPCH1, 1 )   |                 |         |   |
| 6    |          | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR  ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_StandAlonePCH_PS ) ]  |                 |         | One<br>RRC<br>connecti<br>on<br>establish<br>ed on<br>FACH        |
| 7    |          | + ts_CPHY_ActTime ( p_CellId, tsc_S_CCPCH1, 1 )   |                 |         |   |
| 8    |          | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) ]   |                 |         | One<br>RRC<br>connecti<br>on<br>establish<br>ed on<br>FACH<br>BMC |
| 9    |          | + ts_CPHY_ActTime ( p_CellId, tsc_S_CCPCH1, 1 )   |                 |         |   |
| 10   |          | [ (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS ) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR |                 |         |   |
| 11   |          | + ts_CPHY_ActTime ( p_CellId, tsc_DL_DPCH1, 2 )   |                 |         |   |
| 12   |          | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_HS_DSCH ) ]   |                 |         |   |
| 13   |          | + ts_CPHY_ActTime ( p_CellId, tsc_DL_DPCH1, 4 )   |                 |         |   |
| 14   |          | [ ( tcv_TmpCellInfo.cellConfig = cell_NotConfigured ) ]   |                 |         |   |
| 15   |          | [TRUE]  |                 |         |   |
| Deta | iled Com | ments :   |                 |         |   |

Test Step Name : ts\_CountConfiguredCell
Group : BasicM\_General\_Steps/

**Objective**: Assign tcv\_NumCfgCell to the number of cells already configured.

Default : SS\_Def

**Comments**: When a cell is configured, the corresponding receod.cellConfig is set to a different value than

cell\_NotConfigured

Description :

| Nr | Label | Behaviour Description                           | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | ( tcv_NumCfgCell := 0 )                         |                 |         |          |
| 2  |       | + lt_CheckOneCell ( tcv_CellInfoA )             |                 |         |          |
| 3  |       | + lt_CheckOneCell ( tcv_CellInfoB )             |                 |         |          |
| 4  |       | + It_CheckOneCell ( tcv_CellInfoC )             |                 |         |          |
| 5  |       | + lt_CheckOneCell ( tcv_CellInfoD )             |                 |         |          |
| 6  |       | + lt_CheckOneCell ( tcv_CellInfoE )             |                 |         |          |
| 7  |       | + lt_CheckOneCell ( tcv_CellInfoF )             |                 |         |          |
| 8  |       | + lt_CheckOneCell ( tcv_CellInfoG )             |                 |         |          |
| 9  |       | + lt_CheckOneCell ( tcv_CellInfoH )             |                 |         |          |
|    |       | lt_CheckOneCell ( p_CellInfo : CellInfoCfg )    |                 |         |          |
| 10 |       | [ p_CellInfo.cellConfig <> cell_NotConfigured ] |                 |         |          |
| 11 |       | ( tcv_NumCfgCell := tcv_NumCfgCell + 1 )        |                 |         |          |
| 12 |       | [ p_CellInfo.cellConfig = cell_NotConfigured ]  |                 |         |          |

Test Step Name : ts\_InitVariables

**Group**: BasicM\_General\_Steps/

**Objective**: Initialisation of the test case variables tcv\_CellInfoX, tcv\_SF\_Pilot and tcv\_SF512.

Default : SS\_Def

**Comments** : tcv\_CellInfoA, tcv\_CellInfoB, tcv\_CellInfoC, tcv\_CellInfoD, tcv\_CellInfoE and tcv\_CellInfoF :

contains the cell information used to configure SS.

tcv\_SF\_Pilot and tcv\_SF512 are assigned based on the capability of the UE.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments  |
|----|-------|---|-----------------|---------|---|
| 1  |       | + lt_CalculateFrequencyInfo   |                 |         |   |
| 2  |       | +lt_Init_SSInfo_CellA   |                 |         |   |
| 3  |       | +lt_Init_SSInfo_CellB   |                 |         |   |
| 4  |       | +lt_Init_SSInfo_CellC   |                 |         |   |
| 5  |       | +lt_Init_SSInfo_CellD   |                 |         |   |
| 6  |       | +lt_Init_SSInfo_CellE   |                 |         |   |
| 7  |       | +lt_Init_SSInfo_CellF   |                 |         |   |
| 8  |       | +lt_Init_SSInfo_CellG   |                 |         |   |
| 9  |       | +lt_Init_SSInfo_CellH   |                 |         |   |
|    |       | lt_CalculateFrequencyInfo   |                 |         |   |
| 10 |       | + lt_CalculateFreqMid   |                 |         |   |
| 11 |       | + lt_CalculateFreqHigh  |                 |         |   |
| 12 |       | + lt_CalculateFreqLow   |                 |         |   |
|    |       | lt_CalculateFreqMid   |                 |         |   |
| 13 |       | + lt_CheckFreqSeperation(px_UARFCN_D_Mid, px_UARFCN_U_Mid)                      |                 |         |   |
| 14 |       | [NOT tcv_Res]   |                 |         |   |
| 15 |       | ( tcv_FreqInfoMid := c_FreqInfo (<br>px_UARFCN_U_Mid, px_UARFCN_D_Mid ))        |                 |         |   |
| 16 |       | [tcv_Res]   |                 |         |   |
| 17 |       | (tcv_FreqInfoMid := c_FreqInfo ( OMIT, px_UARFCN_D_Mid ))                       |                 |         | Uplink UARFC N is OMITTE D when the distance of 190 MHz is used (distanc e of 950 in UARFC N) |
|    |       | lt_CalculateFreqHigh  |                 |         |   |
| 18 |       | + lt_CheckFreqSeperation(px_UARFCN_D_High, px_UARFCN_U_High)                    |                 |         |   |
| 19 |       | [ NOT tcv_Res ]   |                 |         |   |
| 20 |       | ( tcv_FreqInfoHigh := c_FreqInfo (<br>px_UARFCN_U_High, px_UARFCN_D_High<br>) ) |                 |         |   |
| 21 |       | [ tcv_Res ]   |                 |         |   |

|          |       | Test Step Dynamic E  | Behaviour       |         |   |
|----------|-------|--|-----------------|---------|---|
| Nr       | Label | Behaviour Description  | Constraints Ref | Verdict | Comments  |
| 22       |       | ( tcv_FreqInfoHigh := c_FreqInfo ( OMIT, px_UARFCN_D_High ) )              |                 |         | Uplink UARFC N is OMITTE D when the distance of 190 MHz is used (distanc e of 950 in UARFC N) |
| 23       |       | lt_CalculateFreqLow + lt_CheckFreqSeperation( px_UARFCN_D_Low,             |                 |         |   |
| 23       |       | px_UARFCN_U_Low )  |                 |         |   |
| 24       |       | [NOT tcv_Res]  |                 |         |   |
| 25       |       | ( tcv_FreqInfoLow := c_FreqInfo (     px_UARFCN_U_Low, px_UARFCN_D_Low ) ) |                 |         |   |
| 26<br>27 |       | [ tcv_Res ] ( tcv_FreqInfoLow := c_FreqInfo ( OMIT,                        |                 |         | Uplink  |
|          |       | px_UARFCN_D_Low ))   |                 |         | UARFC N is OMITTE D when the distance of 190 MHz is used (distanc e of 950 in UARFC N)        |
|          |       | It_CheckFreqSeperation(p_UARFCN_D, p_UARFCN_U:INTEGER)                     |                 |         |   |
| 28       |       | [px_FDD_OperationBand = 1]   |                 |         | Operatio<br>n Band<br>1 under<br>test   |
| 29       |       | [((p_UARFCN_D - p_UARFCN_U) = 950)]  |                 |         | Default<br>seperati<br>on   |
| 30<br>31 |       | ( tcv_Res := TRUE)<br>[ TRUE]  |                 |         | Non<br>default<br>seperati<br>on  |
| 32<br>33 |       | ( tcv_Res := FALSE) [px_FDD_OperationBand = 2]                             |                 |         | Operatio<br>n Band<br>2 under<br>test   |

|          |       | Test Step Dynamic   | Behaviour       |         |   |
|----------|-------|---|-----------------|---------|---|
| Nr       | Label | Behaviour Description   | Constraints Ref | Verdict | Comments                                      |
| 34       |       | [((p_UARFCN_D - p_UARFCN_U) = 400)]   |                 |         | Default<br>seperati<br>on                     |
| 35 36    |       | (tcv_Res := TRUE) [TRUE]  |                 |         | Non<br>default<br>seperati<br>on              |
| 37<br>38 |       | ( tcv_Res := FALSE) [px_FDD_OperationBand = 3]  |                 |         | Operatio<br>n Band<br>3 under<br>test         |
| 39       |       | [((p_UARFCN_D - p_UARFCN_U) = 475)]   |                 |         | Default<br>seperati<br>on                     |
| 40       |       | ( tcv_Res := TRUE)  |                 |         |   |
| 41       |       | [TRUE]  |                 |         | Non<br>default<br>seperati<br>on              |
| 42       |       | ( tcv_Res := FALSE)   |                 |         |   |
| 43       |       | [(px_FDD_OperationBand = 5) OR<br>(px_FDD_OperationBand = 6)]   |                 |         | Operatio<br>n Band<br>5 0r 6<br>under<br>test |
| 44       |       | [((p_UARFCN_D - p_UARFCN_U) = 225)]   |                 |         | Default<br>seperati<br>on                     |
| 45       |       | ( tcv_Res := TRUE)  |                 |         |   |
| 46       |       | [TRUE]  |                 |         | Non<br>default<br>seperati<br>on              |
| 47       |       | ( tcv_Res := FALSE)   |                 |         |   |
| 48       |       | [TRUE]  |                 |         |   |
|          |       | lt_Init_SSInfo_CellA  |                 |         |   |
| 49       |       | (tcv_CellInfoA := c_CellInfoDef ( tsc_CellA, px_PriScrmCode, tsc_URA_IdCellA, px_TCellA, tsc_SFN_OffsetA, tcv_FreqInfoMid , px_UL_ScramblingCode ))  It_Init_SSInfo_CellB |                 |         | 1.  |
| 50       |       | (tcv_CellInfoB := c_CellInfoDef (<br>tsc_CellB, ( ( px_PriScrmCode + 50 ) MOD 512) ,  |                 |         | 2.  |
|          |       | tsc_URA_IdCellB, px_TCellB, tsc_SFN_OffsetB, tcv_FreqInfoMid , ((px_UL_ScramblingCode +1000) MOD 16777216) ))   |                 |         |   |
|          |       | lt_Init_SSInfo_CellC  |                 |         |   |

|    | Test Step Dynamic Behaviour |   |                 |         |          |  |  |
|----|-----------------------------|---|-----------------|---------|----------|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |
| 51 |                             | (tcv_CellInfoC := c_CellInfoDef ( tsc_CellC, ((px_PriScrmCode + 100) MOD 512), tsc_URA_IdCellC, px_TCellC, tsc_SFN_OffsetC, tcv_FreqInfoMid, ((px_UL_ScramblingCode +2000) MOD 16777216)))    |                 |         | 3.       |  |  |
|    |                             | lt_Init_SSInfo_CellD  |                 |         |          |  |  |
| 52 |                             | (tcv_CellInfoD := c_CellInfoDef ( tsc_CellD, ((px_PriScrmCode + 150) MOD 512), tsc_URA_IdCellD, px_TCellD, tsc_SFN_OffsetD, tcv_FreqInfoHigh, ((px_UL_ScramblingCode +3000) MOD 16777216)))   |                 |         | 4.       |  |  |
|    |                             | lt_Init_SSInfo_CellE  |                 |         |          |  |  |
| 53 |                             | (tcv_CellInfoE := c_CellInfoDef ( tsc_CellE, ((px_PriScrmCode + 200) MOD 512), tsc_URA_IdCellE, px_TCellE,tsc_SFN_OffsetE, tcv_FreqInfoHigh, ((px_UL_ScramblingCode +4000) MOD 16777216)))    |                 |         | 5.       |  |  |
|    |                             | It_Init_SSInfo_CellF  |                 |         |          |  |  |
| 54 |                             | (tcv_CellInfoF := c_CellInfoDef ( tsc_CellF, ((px_PriScrmCode + 250) MOD 512), tsc_URA_IdCellF, px_TCellF, tsc_SFN_OffsetF, tcv_FreqInfoHigh , ((px_UL_ScramblingCode +5000) MOD 16777216) )) |                 |         | 6.       |  |  |
|    |                             | It_Init_SSInfo_CellG  |                 |         |          |  |  |
| 55 |                             | (tcv_CellInfoG := c_CellInfoDef ( tsc_CellG, ((px_PriScrmCode + 300) MOD 512), tsc_URA_IdCellG, px_TCellG, tsc_SFN_OffsetG, tcv_FreqInfoMid , ((px_UL_ScramblingCode +6000) MOD 16777216) ))  |                 |         |          |  |  |
|    |                             | lt_Init_SSInfo_CellH  |                 |         |          |  |  |
| 56 |                             | (tcv_CellInfoH := c_CellInfoDef ( tsc_CellH, ((px_PriScrmCode + 350) MOD 512), tsc_URA_IdCellH, px_TCellH, tsc_SFN_OffsetH, tcv_FreqInfoMid , ((px_UL_ScramblingCode +7000) MOD 16777216) ))  |                 |         |          |  |  |

- **Detailed Comments**: 1. The primary scrambling code of cell A is equal to the pixit value
  - 2. The primary scrmabling code of cell B is equal to the pixit value + 50
  - 3. The primary scrmabling code of cell B is equal to the pixit value + 100
  - 4. Cell A and D do not have the same frequency, the primary scrambling code of cell D is equal to the one of cell A
  - 5. Cell B and E do not have the same frequency, the primary scrambling code of cell E is equal to the one of cell B
  - 6. Cell C and F do not have the same frequency, the primary scrambling code of cell F is equal to the one of cell C

Test Step Name : ts\_NAS\_Delay(p\_Dly: INTEGER)

Group : BasicM\_General\_Steps/
Objective : Realization of a Delay
Default : NAS\_OtherwiseFail

Comments : Description :

|   |                    | Constraints Ref | Verdict | Comments |
|---|--------------------|-----------------|---------|----------|
| 1 | START t_Dly(p_Dly) |                 |         |          |
| 2 | ?TIMEOUT t_Dly     |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_RRC\_Delay ( p\_Dly: INTEGER )

Group : BasicM\_General\_Steps/
Objective : Realization of a Delay

**Default** : RRC\_Def1

Comments : Description :

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|----|-------|-----------------------|-----------------|---------|----------|
| 1  |       | START t_Dly(p_Dly)    |                 |         |          |
| 2  |       | ?TIMEOUT t_Dly        |                 |         |          |

Test Step Name : ts\_SaveCellInfo ( p\_CellId : INTEGER )

Group : BasicM\_General\_Steps/

Objective : To save in the variable dedicated to the cell p\_CellID, the value contained in tcv\_TmpCellInfo.

Default : SS\_Def

Comments : Description :

| Nr    | Label    | Behaviour Description               | Constraints Ref | Verdict | Comments        |
|-------|----------|-------------------------------------|-----------------|---------|-----------------|
| 1     |          | [ p_CellId = tsc_CellA]             |                 |         |                 |
| 2     |          | ( tcv_CellInfoA := tcv_TmpCellInfo) |                 |         |                 |
| 3     |          | [ p_CellId = tsc_CellB]             |                 |         |                 |
| 4     |          | ( tcv_CellInfoB:= tcv_TmpCellInfo)  |                 |         |                 |
| 5     |          | [ p_CellId = tsc_CellC]             |                 |         |                 |
| 6     |          | ( tcv_CellInfoC:= tcv_TmpCellInfo)  |                 |         |                 |
| 7     |          | [ p_CellId = tsc_CellD]             |                 |         |                 |
| 8     |          | ( tcv_CellInfoD:= tcv_TmpCellInfo)  |                 |         |                 |
| 9     |          | [ p_CellId = tsc_CellE]             |                 |         |                 |
| 10    |          | ( tcv_CellInfoE := tcv_TmpCellInfo) |                 |         |                 |
| 11    |          | [ p_CellId = tsc_CellF]             |                 |         |                 |
| 12    |          | ( tcv_CellInfoF := tcv_TmpCellInfo) |                 |         |                 |
| 13    |          | [ p_CellId = tsc_CelIG]             |                 |         |                 |
| 14    |          | ( tcv_CellInfoG := tcv_TmpCellInfo) |                 |         |                 |
| 15    |          | [ p_CellId = tsc_CellH]             |                 |         |                 |
| 16    |          | ( tcv_CellInfoH := tcv_TmpCellInfo) |                 |         |                 |
| 17    |          | [TRUE]                              |                 | 1       | program<br>ming |
| Detai | iled Com | ments :                             |                 |         | error           |

# **Test Step Dynamic Behaviour**

 $\textbf{Test Step Name} \quad \textbf{:} \quad ts\_SetCellCfg \ ( \ p\_CellId : INTEGER \ ; \ p\_CellConfig : RB\_ConfigType \ )$ 

Group : BasicM\_General\_Steps/

Objective : To assign the field cellConfig of the cell given as parameter to the value 'p\_CellConfig'.

( tcv\_CellInfo[p\_CellId] := p\_CellConfig )

Default : SS\_Def

Comments :
Description :

| Nr   | Label                 | Behaviour Description                          | Constraints Ref | Verdict | Comments |  |  |
|------|-----------------------|--|-----------------|---------|----------|--|--|
| 1    |                       | + ts_SetTmpCellInfo (p_CellId)                 |                 |         |          |  |  |
| 2    |                       | ( tcv_TmpCellInfo.cellConfig := p_CellConfig ) |                 |         |          |  |  |
| 3    |                       | + ts_SaveCellInfo (p_CellId)                   |                 |         |          |  |  |
| Doto | Patrilled Community : |  |                 |         |          |  |  |

 $\textbf{Test Step Name} \quad : \ \, ts\_SetTmpCellInfo \ \, (p\_CellId : INTEGER \, )$ 

Group : BasicM\_General\_Steps/

Objective : To Set global variable tcv\_TmpCellInfo to the table corresponding to given cell

Default : SS\_Def

**Comments**: This Step helps the programmer when he/she needs to access cell information in a generic test Step.

Description :

| Nr   | Label               | Behaviour Description                | Constraints Ref | Verdict | Comments       |  |  |
|------|---------------------|--------------------------------------|-----------------|---------|----------------|--|--|
| 1    |                     | [p_CellId = tsc_CellA]               |                 |         |                |  |  |
| 2    |                     | ( tcv_TmpCellInfo := tcv_CellInfoA ) |                 |         |                |  |  |
| 3    |                     | [p_CellId = tsc_CellB]               |                 |         |                |  |  |
| 4    |                     | ( tcv_TmpCellInfo := tcv_CellInfoB ) |                 |         |                |  |  |
| 5    |                     | [p_CellId = tsc_CellC]               |                 |         |                |  |  |
| 6    |                     | ( tcv_TmpCellInfo := tcv_CellInfoC ) |                 |         |                |  |  |
| 7    |                     | [p_CellId = tsc_CelID]               |                 |         |                |  |  |
| 8    |                     | ( tcv_TmpCellInfo := tcv_CellInfoD ) |                 |         |                |  |  |
| 9    |                     | [p_CellId = tsc_CellE]               |                 |         |                |  |  |
| 10   |                     | ( tcv_TmpCellInfo := tcv_CellInfoE ) |                 |         |                |  |  |
| 11   |                     | [p_CellId = tsc_CellF]               |                 |         |                |  |  |
| 12   |                     | ( tcv_TmpCellInfo := tcv_CellInfoF ) |                 |         |                |  |  |
| 13   |                     | [p_CellId = tsc_CellG]               |                 |         |                |  |  |
| 14   |                     | ( tcv_TmpCellInfo := tcv_CellInfoG ) |                 |         |                |  |  |
| 15   |                     | [p_CellId = tsc_CellH]               |                 |         |                |  |  |
| 16   |                     | ( tcv_TmpCellInfo := tcv_CellInfoH ) |                 |         |                |  |  |
| 17   | ERR                 | [TRUE]                               |                 | 1       | Fatal<br>error |  |  |
| Deta | Detailed Comments : |                                      |                 |         |                |  |  |

Test Step Name : ts\_GMM\_Authentication ( p\_CellId : INTEGER )

**Group**: BasicM\_MM\_GMM\_Steps/

**Objective**: Generate authentication paramters and run the GMM Authentication procedure

**Default**: NAS\_OtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments  |
|----|-------|--|---|---------|---|
| 1  |       | +ts_GMM_AuthenticationInit   |   |         | Comput<br>e all<br>relevant<br>authenti<br>cation<br>paramet<br>ers.  |
| 2  |       | Dc ! RRC_DataReq   | ca_PS_DataReq(tsc_CellDe dicated , tsc_RB3, cs_AuthAndCiphReq ( c_GMM_AuthRAND(tcv_Au thRAND), c_GMM_KeySeq_tv(tcv_PS_KeySeq), c_GMM_AuthAUTN(tcv_Au thAUTN) )) |         | AUTHE NTICATI ON AND CIPHER ING REQUE ST using relevant PS keys compute d before.                               |
| 3  |       | Dc ? RRC_DataInd ( tcv_TmpAuthAndCiphRspPDU := RRC_DataInd.msg, tcv_AuthRsp := tcv_TmpAuthAndCiphRspPDU.authRsp.value, tcv_AuthRspExt := tcv_TmpAuthAndCiphRspPDU.authRspExt ) | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated , tsc_RB3, cr_AuthAndCiphRsp (c_AuthRspAny_tv,c_AuthC iphRspExtAny) )  |         | AUTHE NTICATI ON AND CIPHER ING RESPO NSE including both Authenti cation Respons e paramter s (RES and RES ext) |
| 4  |       | (tcv_Res := o_AuthRspChk( tcv_AuthRsp, tcv_AuthRspExt, tcv_AuthK, tcv_AuthRAND, TRUE))   |   |         | Verify that the received Authenti cation Respons e paramter s match expecte d respons e.                        |
| 5  | TSF1  | [tcv_Res = FALSE]  |   | (F)     | -   |

|         |       | Test Step Dynami  | c Behaviour  |                 |  |
|---------|-------|---|--|-----------------|--|
| Nr      | Label | Behaviour Description   | Constraints Ref  | Verdict         | Comments   |
| 6 7     | TSP1  | [tcv_Res = TRUE]  Dc ? RRC_DataInd ( tcv_TmpAuthAndCiphRspPDU := RRC_DataInd.msg, tcv_AuthRsp := tcv_TmpAuthAndCiphRspPDU.authRsp.value ) | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated , tsc_RB3, cr_AuthAndCiphRsp (c_AuthRspAny_tv, -) ) | (P)             | AUTHE NTICATI ON AND CIPHER ING RESPO NSE including only one Authenti cation Respons                                       |
| 8       | T0F0  | <pre>(tcv_Res := o_AuthRspChk(    tcv_AuthRsp,    -,    tcv_AuthK,    tcv_AuthRAND,    FALSE))</pre>                                      |  |                 | e paramter s (RES) Verify that the received Authenti cation Respons e paramter s match expecte d respons e.                |
| 9 10 11 | TSF2  | [tcv_Res = FALSE] [tcv_Res = TRUE] Dc ? RRC_DataInd   | car_PS_UplinkDirectTransfe r (tsc_CellDedicated , tsc_RB3, cr_AuthAndCiphFailureAny)                 | (F)<br>(P)<br>I | AUTHE NTICATI ON AND CIPHER ING Failure, then stop executio n by assignin g INCON CLUSIV E verdict as this might be a USIM |

**Detailed Comments**: See 3GPP 24.008 / 4.7, 3GPP 33.102 / 6.3 and 3GPP 34.108 / 8 (for the computation of

authentication paramters

for Test USIM)

See also the detailed description in test Step ts\_MM\_Authentication, on which this test Step is

based.

Test Step Name : ts\_GMM\_AuthenticationInit
Group : BasicM\_MM\_GMM\_Steps/

**Objective**: Computation of variables related to the Authentication and Key Agreement

procedure for PS domain

Default : NAS\_OtherwiseFail

**Comments**: Based on TS 34.108 cl. 8.1.2 and TS 33.102 cl.s 6.3 and 6.8.1.2

Description :

| Nr | Label | Behaviour Description      | Constraints Ref | Verdict | Comments   |
|----|-------|----------------------------|-----------------|---------|--|
| 1  |       | +lt_IncrementCiphKeySeqNum |                 |         |  |
| 2  |       | +lt_AuthCalcAUTN           |                 |         | 1. Calculati on of AUTN needed for Authenti cation Request   |
| 3  |       | +lt_AuthCalcUMTS_Others    |                 |         | 2. Calculati<br>on of<br>other<br>authenti<br>cation<br>informati<br>on<br>needed<br>(IK, CK,<br>XRES) |
| 4  |       | +lt_AuthCalcKcGSM          |                 |         | 3.<br>Calculati<br>on of Kc<br>GSM,<br>using IK<br>and CK  |
|    |       | lt_IncrementCiphKeySeqNum  |                 |         |  |
| 5  |       | [tcv_PS_KeySeq = '000'B]   |                 |         |  |
| 6  |       | (tcv_PS_KeySeq := '001'B)  |                 |         |  |
| 7  |       | [tcv_PS_KeySeq = '001'B]   |                 |         |  |
| 8  |       | (tcv_PS_KeySeq := '010'B)  |                 |         |  |
| 9  |       | [tcv_PS_KeySeq = '010'B]   |                 |         |  |
| 10 |       | (tcv_PS_KeySeq := '011'B)  |                 |         |  |
| 11 |       | [tcv_PS_KeySeq = '011'B]   |                 |         |  |
| 12 |       | (tcv_PS_KeySeq := '100'B)  |                 |         |  |
| 13 |       | [tcv_PS_KeySeq = '100'B]   |                 |         |  |
| 14 |       | (tcv_PS_KeySeq := '101'B)  |                 |         |  |
| 15 |       | [tcv_PS_KeySeq = '101'B]   |                 |         |  |
| 16 |       | (tcv_PS_KeySeq := '110'B)  |                 |         |  |
| 17 |       | [TRUE]                     |                 |         |  |
| 18 |       | (tcv_PS_KeySeq := '000'B)  |                 |         |  |
|    |       | lt_AuthCalcAUTN            |                 |         |  |
| Ь  | ı     |                            | I .             |         | 1  |

|    | Test Step Dynamic Behaviour |  |                 |         |   |  |  |
|----|-----------------------------|--|-----------------|---------|---|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments  |  |  |
| 19 |                             | (tcv_AuthXDOUT := o_BitstringXOR( tcv_AuthRAND, tcv_AuthK, 128))                                 |                 |         | XDOUT<br>:= RAND<br>XOR K                                   |  |  |
| 20 |                             | (tcv_AuthCDOUT := o_BitstringConcat( tsv_AuthSQN, tcv_AuthAMF, 48, 16))                          |                 |         | CDOUT<br>:= SQN<br>   AMF                                   |  |  |
| 21 |                             | (tcv_AuthXDOUT_Half := o_BitstringXtract( tcv_AuthXDOUT, 128, 64, 0))                            |                 |         | XDOUT _half := 64 bits of XDOUT starting from offset 0      |  |  |
| 22 |                             | (tcv_AuthAK := o_BitstringXtract( tcv_AuthXDOUT, 128, 48, 24))                                   |                 |         | AK := 48 bits of XDOUT starting from offset 24              |  |  |
| 23 |                             | (tcv_AuthAUTN_1 := o_BitstringXOR( tsv_AuthSQN, tcv_AuthAK, 48))                                 |                 |         | AUTN1<br>:= SQN<br>XOR AK                                   |  |  |
| 24 |                             | (tcv_AuthMAC := o_BitstringXOR( tcv_AuthXDOUT_Half, tcv_AuthCDOUT, 64))                          |                 |         | MAC :=<br>XDOUT<br>_half<br>XOR<br>CDOUT                    |  |  |
| 25 |                             | (tcv_AuthAUTN_2 := o_BitstringConcat( tcv_AuthAMF, tcv_AuthMAC, 16, 64))                         |                 |         | AUTN2<br>:= AMF<br>   MAC                                   |  |  |
| 26 |                             | (tcv_AuthAUTN :=     o_BitstringConcat(     tcv_AuthAUTN_1,     tcv_AuthAUTN_2,     48,     80)) |                 |         | AUTN := AUTN1    AUTN2                                      |  |  |
| 27 |                             | It_AuthCalcUMTS_Others (tcv_PS_AuthIK := o_BitstringXtract( tcv_AuthXDOUT, 128, 128, 16))        |                 |         | IK := 128 bits of XDOUT starting from offset 16 (wrappin g) |  |  |

|    | Test Step Dynamic Behaviour |   |                 |         |  |  |  |
|----|-----------------------------|---|-----------------|---------|--|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments   |  |  |
| 28 |                             | (tcv_PS_AuthCK := o_BitstringXtract( tcv_AuthXDOUT, 128, 128, 8))                       |                 |         | CK := 128 bits of XDOUT starting from offset 8 (wrappin g)     |  |  |
| 29 |                             | <pre>(tcv_AuthXRES := o_BitstringXtract( tcv_AuthXDOUT, 128, (tcv_AuthN + 1), 0))</pre> |                 |         | XRES := (n+1) bits of XDOUT starting from offset 0             |  |  |
| 30 |                             | It_AuthCalcKcGSM  (tcv_AuthCK_1 := o_BitstringXtract( tcv_PS_AuthCK, 128, 64, 0))       |                 |         | CK1 := 64 bits of CK starting from offset 0                    |  |  |
| 31 |                             | (tcv_AuthCK_2 := o_BitstringXtract( tcv_PS_AuthCK, 128, 64, 64))                        |                 |         | CK2 := 64 bits of CK starting from offset 64                   |  |  |
| 32 |                             | (tcv_AuthIK_1 := o_BitstringXtract( tcv_PS_AuthIK, 128, 64, 0))                         |                 |         | IK1 := 64 bits of IK starting from offset 0                    |  |  |
| 33 |                             | (tcv_AuthIK_2 := o_BitstringXtract( tcv_PS_AuthIK, 128, 64, 64))                        |                 |         | IK2 :=<br>64 bits<br>of IK<br>starting<br>from<br>offset<br>64 |  |  |
| 34 |                             | <pre>(tcv_AuthCK_XOR :=   o_BitstringXOR(   tcv_AuthCK_1,   tcv_AuthCK_2, 64))</pre>    |                 |         | CK_XO<br>R :=<br>CK1<br>XOR<br>CK2                             |  |  |
| 35 |                             | (tcv_AuthIK_XOR := o_BitstringXOR( tcv_AuthIK_1, tcv_AuthIK_2, 64))                     |                 |         | IK_XOR<br>:= IK1<br>XOR IK2                                    |  |  |

# Continued from previous page

| Verdict | Comments  |
|---------|---|
|         | KcGSM := CK_XO R XOR IK_XOR (= CK1 XOR CK2 XOR IK1 XOR IK2) |
|         | verdiot   |

Test Step Name : ts\_GMM\_IdleUpdated ( p\_CellId : INTEGER )

Group : BasicM\_MM\_GMM\_Steps/

**Objective**: Turn on UE and register for PS or combined PS/CS services.

Default : NAS\_OtherwiseFail
Comments : Initial conditions:

- Cell referenced by p\_CellId is configured and sending SysInfos on BCCH

- UE is switched off with a valid Test USIM inserted

Input paramters:

- p\_CellId referencing the Cell

Global paramters used:

- The SS will use global authentication paramters and keys which are generated in test Step

ts\_GMM\_Authentication:

tcv\_AuthRAND, tcv\_KeySeq, tcv\_AuthAUTN, tcv\_AuthCK, tcv\_AuthIK, tcv\_AuthKcGSM.

- The SS will assign to the UE default values for P-TMSI, P-TMSI signature and

(in case of combined PS/IMSI attach) TMSI.

Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments  |
|----|-------|--|-----------------|---------|---|
| 1  |       | +ts_SetTmpCellInfo (p_CellId)                                      |                 |         |   |
| 2  |       | [ (tcv_UE_OpMode = opModeA) AND (tcv_TmpCellInfo.nmo = tsc_NMO_I)] |                 |         | If UE is in operatio n mode A and network mode of operatio n is I, then run combine d PS/CS                             |
|    |       | . It felled by describ NIMO I                                      |                 |         | es.   |
| 3  |       | +lt_IdleUpdated_NMO_I  |                 |         |   |
| 4  |       | ( tcv_Use_E_PLMN := FALSE)   |                 |         | Invalidat<br>e the<br>tcv_E_P<br>LMN  |
| 5  |       | [(tcv_UE_OpMode = opModeA) AND (tcv_TmpCellInfo.nmo = tsc_NMO_II)] |                 |         | If UE is in operatio n mode A and network mode of operatio n is II, then run first CS and PS procedur es indepen dently |
| 6  |       | +lt_IdleUpdated_NMO_II   |                 |         |   |

|    | Test Step Dynamic Behaviour |                                     |                 |         |  |  |  |
|----|-----------------------------|-------------------------------------|-----------------|---------|--|--|--|
| Nr | Label                       | Behaviour Description               | Constraints Ref | Verdict | Comments                                       |  |  |
| 7  |                             | ( tcv_Use_E_PLMN := FALSE)          |                 |         | Invalidat<br>e the                             |  |  |
|    |                             | / UE 0 M   0 M   0                  |                 |         | tcv_E_P<br>LMN                                 |  |  |
| 8  |                             | [tcv_UE_OpMode = opModeC]           |                 |         | If UE is in operatio                           |  |  |
|    |                             |                                     |                 |         | n mode<br>C,                                   |  |  |
|    |                             |                                     |                 |         | then run<br>GMM<br>procedur                    |  |  |
|    |                             |                                     |                 |         | e (for PS only attach).                        |  |  |
| 9  |                             | +lt_GMMOnly_IdleUpdated             |                 |         |  |  |  |
| 10 |                             | ( tcv_Use_E_PLMN := FALSE)          |                 |         | Invalidat<br>e the<br>tcv_E_P<br>LMN           |  |  |
| 11 | ERR                         | [TRUE]                              |                 | I       | Program<br>ming<br>error                       |  |  |
|    |                             | <br>  It_IdleUpdated_NMO_I          |                 |         | 0.101  |  |  |
| 12 |                             | + ts_MMI_UE_SwitchOn                |                 |         |  |  |  |
| 13 |                             | +ts_RRC_ConnEst(                    |                 |         | Establis                                       |  |  |
|    |                             | p_CellId, est_Reg, registration)    |                 |         | h RRC<br>connecti<br>on                        |  |  |
| 14 |                             | [pc_AutomaticAttachSwitchON = TRUE] |                 |         | Perform<br>combine<br>d CS/PS<br>procedur<br>e |  |  |
| 15 |                             | +lt_AttachRequest                   |                 |         | ATTACH<br>REQUE<br>ST                          |  |  |
| 16 |                             | +ts_GMM_Authentication(p_CellId)    |                 |         | AUTHE<br>NTICATI<br>ON                         |  |  |
|    |                             |                                     |                 |         | AND<br>CIPHER                                  |  |  |
|    |                             |                                     |                 |         | ING<br>REQUE<br>ST                             |  |  |
|    |                             |                                     |                 |         | AUTHE<br>NTICATI<br>ON                         |  |  |
|    |                             |                                     |                 |         | AND<br>CIPHER<br>ING                           |  |  |
|    |                             |                                     |                 |         | RESPO<br>NSE                                   |  |  |

| Comm | Test Step Dynamic Behaviour |   |  |         |  |  |  |
|------|-----------------------------|---|--|---------|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref  | Verdict | Comments   |  |  |
| 17   |                             | +lt_SecurityMode  |  |         | SECURI<br>TY<br>MODE<br>COMMA<br>ND<br>SECURI<br>TY<br>MODE<br>COMPL<br>ETE                          |  |  |
| 18   |                             | +lt_AttachAccept  |  |         | ATTACH<br>ACCEP<br>T<br>ATTACH<br>COMPL<br>ETE   |  |  |
| 19   |                             | +It_RRC_ConnRel   |  |         | RRC connecti on release  |  |  |
| 20   |                             | [pc_AutomaticAttachSwitchON = FALSE]  |  |         | First perform Location Update procedur e, and then trigger UE via AT comman d to perform GPRS Attach |  |  |
| 21   |                             | Dc?RRC_DataInd ( tcv_Start := RRC_DataInd.start ) + ts_SS_SecurityDownloadStart (   | car_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cb_LocUpdReqAny(?)) |         | Any<br>Location<br>Update<br>request   |  |  |
| 23   |                             | cs_domain, tcv_Start ) +ts_MM_Authentication(p_CellId)  |  |         | Authenti cation  |  |  |
| 24   |                             | +ts_RRC_Security ( p_CellId,     tcv_AuthCK,     tcv_AuthIK,     tcv_AuthKcGSM,     TRUE,     cs_domain)     + lt_LocUpdAcc |  |         | 53.1311  |  |  |
| 26   |                             | +lt_RRC_ConnRel   |  |         | Release<br>RRC<br>connecti<br>on   |  |  |
| 27   |                             | START t_WaitS(1)  |  |         | Wait 1 s<br>to allow<br>UE to<br>relax   |  |  |

|    | Test Step Dynamic Behaviour |   |  |         |  |  |  |  |
|----|-----------------------------|---|--|---------|--|--|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref  | Verdict | Comments   |  |  |  |
| 28 |                             | ?TIMEOUT t_WaitS  |  |         |  |  |  |  |
| 29 |                             | START t_WaitS (60)  |  |         |  |  |  |  |
| 30 |                             | +ts_AT_TriggerGMM_Attach  |  |         | trigger UE to initiate GMM Attach after allowing the UE to decode Sys              |  |  |  |
| 31 |                             | +ts_RRC_ConnEst(<br>p_CellId,<br>est_Reg,<br>registration)  |  |         | Infos Establis h RRC connecti on   |  |  |  |
| 32 |                             | Dc ? RRC_DataInd ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:=  | car_PS_InitDirectTransfer<br>(tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq ( |         | ATTACH<br>REQUE<br>ST  |  |  |  |
|    |                             | tcv_TmpBs<br>tcv_TmpAttachReqPDU.at<br>tachType.type,<br>tcv_Start :=<br>RRC_DataInd.start<br>)CANCEL t_WaitS | c_Attachiveq (<br>c_AttachivpeAny,<br>c_MobileIdAny_lv,<br>c_RAI_Any_v,<br>?)) |         | Extract<br>Attach<br>type<br>requeste  |  |  |  |
| 33 |                             | +   |  |         | ľ  |  |  |  |
| 55 |                             | ts_SS_SecurityDownloa<br>dStart ( ps_domain,<br>tcv_Start )   |  |         |  |  |  |  |
| 34 |                             | +ts_GMM_Authenticati on ( p_CellId )  |  |         | AUTHE NTICATI ON AND CIPHER ING REQUE ST AUTHE NTICATI ON AND CIPHER ING RESPO NSE |  |  |  |
| 35 |                             | +lt_SecurityMode  |  |         | SECURI<br>TY<br>MODE<br>COMMA<br>ND<br>SECURI<br>TY<br>MODE<br>COMPL<br>ETE        |  |  |  |

|    | Test Step Dynamic Behaviour |  |  |         |  |  |  |  |
|----|-----------------------------|--|--|---------|--|--|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref  | Verdict | Comments   |  |  |  |
| 36 |                             | +lt_AttachAccept   |  |         | ATTACH<br>ACCEP<br>T<br>ATTACH<br>COMPL  |  |  |  |
| 37 |                             | +lt_RRC_ConnRe<br>I  |  |         | RRC connection release   |  |  |  |
| 38 |                             | ? TIMEOUT t_WaitS  |  | F       | IF UE<br>doesent<br>respond<br>to<br>Attach<br>triggere<br>d Fail<br>the UE.   |  |  |  |
| 39 |                             | + ts_MMI_UE_SwitchOn   |  |         |  |  |  |  |
| 40 |                             | +ts_RRC_ConnEst( p_CellId, est_Reg, registration)                                    |  |         | Establis<br>h RRC<br>connecti<br>on  |  |  |  |
| 41 |                             | Dc?RRC_DataInd<br>(tcv_Start := RRC_DataInd.start)                                   | car_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cb_LocUpdReqAny(?)) |         | Any<br>Location<br>Update<br>request   |  |  |  |
| 42 |                             | (tcv_GMM_AttachExpect := TRUE,<br>tcv_GMM_AttachRec := FALSE)                        |  |         | Set Flags in order to enable default handler to store ATTACH REQUE ST PDU in case it is sent during Location Update procedur e |  |  |  |
| 43 |                             | + ts_SS_SecurityDownloadStart ( cs_domain, tcv_Start)                                |  |         |  |  |  |  |
| 44 |                             | +ts_MM_Authentication(p_CellId)  |  |         | Authenti cation  |  |  |  |
| 45 |                             | +ts_RRC_Security ( p_CellId, tcv_AuthCK, tcv_AuthIK, tcv_AuthKcGSM, TRUE, cs_domain) |  |         |  |  |  |  |
| 46 |                             | + lt_LocUpdAcc   |  |         |  |  |  |  |
| 47 |                             | +lt_HandleAttachRequest  |  |         |  |  |  |  |

|    | Test Step Dynamic Behaviour |  |                 |         |   |  |  |
|----|-----------------------------|--|-----------------|---------|---|--|--|
| Nr | Label                       | Behaviour Description                                  | Constraints Ref | Verdict | Comments  |  |  |
| 48 |                             | +ts_GMM_Authentication ( p_CellId )                    |                 |         | AUTHE NTICATI ON AND CIPHER ING REQUE ST AUTHE NTICATI ON AND CIPHER ING                |  |  |
| 49 |                             | +lt_SecurityMode                                       |                 |         | RESPO<br>NSE<br>SECURI<br>TY<br>MODE<br>COMMA<br>ND<br>SECURI<br>TY<br>MODE<br>COMPL    |  |  |
| 50 |                             | +It_AttachAccept                                       |                 |         | ETE ATTACH ACCEP T ATTACH COMPL   |  |  |
| 51 |                             | +lt_RRC_ConnRel  |                 |         | RRC connecti on release   |  |  |
| 52 |                             | It_HandleAttachRequest (tcv_GMM_AttachExpect := FALSE) |                 |         | Disable NAS default handler for ATTACH REQUE ST   |  |  |
| 53 |                             | [ tcv_GMM_AttachRec = TRUE]                            |                 |         | ATTACH<br>REQUE<br>ST was<br>received<br>and<br>handled<br>by NAS<br>default<br>handler |  |  |

|    | Test Step Dynamic Behaviour |   |  |         |   |  |  |
|----|-----------------------------|---|--|---------|---|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref  | Verdict | Comments  |  |  |
| 54 |                             | [NOT pc_AutomaticAttachSwitchON]  |  |         | ATTACH<br>REQUE<br>ST was<br>NOT yet<br>received<br>and the<br>UE does<br>not<br>automati<br>cally<br>attach at<br>switch<br>on |  |  |
| 55 |                             | +lt_RRC_ConnRel   |  |         | RRC<br>connecti<br>on<br>release  |  |  |
| 56 |                             | START t_WaitS ( 1 )   |  |         | Wait 1 s<br>to allow<br>UE to<br>relax  |  |  |
| 57 |                             | ?TIMEOUT t_WaitS  |  |         |   |  |  |
| 58 |                             | START t_WaitS ( 60 )  |  |         |   |  |  |
| 59 |                             | +ts_AT_TriggerGMM_Attach  |  |         | Trigger UE to initiate GMM Attach after allowing the UE to decode Sys Infos   |  |  |
| 60 |                             | +ts_RRC_ConnEst( p_CellId, est_Reg, registration)   |  |         | Establis<br>h RRC<br>connecti<br>on   |  |  |
| 61 |                             | Dc ? RRC_DataInd ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.t ype, tcv_Start := RRC_DataInd.start )CANCEL t_WaitS | car_PS_InitDirectTransfer<br>(tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq (<br>c_AttachTypeAny,<br>c_MobileIdAny_Iv,<br>c_RAI_Any_v,<br>?)) |         | ATTACH<br>REQUE<br>ST<br>-<br>Extract<br>Attach<br>type<br>requeste<br>d  |  |  |
| 62 |                             | + ts_SS_SecurityDownloadStart ( ps_domain, tcv_Start )  |  |         |   |  |  |
| 63 |                             | ? TIMEOUT t_WaitS   |  | F       |   |  |  |

|          | Test Step Dynamic Behaviour |  |  |         |   |  |  |
|----------|-----------------------------|--|--|---------|---|--|--|
| Nr       | Label                       | Behaviour Description  | Constraints Ref  | Verdict | Comments  |  |  |
| 64       |                             | [TRUE]   |  |         | The UE did not send ATTACH REQUE ST but it should since it shall automati call switch attach at switch on   |  |  |
| 65<br>66 |                             | START t_WaitS ( 5 )  Dc ? RRC_DataInd ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.type, | car_PS_InitDirectTransfer<br>(tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq (<br>c_AttachTypeAny, |         | ATTACH<br>REQUE<br>ST<br>-<br>Extract   |  |  |
| 07       |                             | tcv_Start := RRC_DataInd.start )CANCEL t_WaitS   | c_MobileIdAny_Iv,<br>c_RAI_Any_v,<br>?))   |         | Attach<br>type<br>requeste<br>d   |  |  |
| 67       |                             | + ts_SS_SecurityDownloadStart ( ps_domain, tcv_Start )   |  |         |   |  |  |
| 68       |                             | ? TIMEOUT t_WaitS  |  |         | Now, if this event happens, then the UE didn't send an ATTACH REQUE ST yet. We give the UE a last chance: We release the connecti on and wait for the UE to autamtic ally start |  |  |
|          |                             |  |  |         | a connecti<br>on and<br>finally<br>send an<br>ATTACH<br>REQUE<br>ST   |  |  |

|    |       | Test Step Dynamic   | : Behaviour   |         |   |
|----|-------|---|---|---------|---|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments  |
| 69 |       | +lt_RRC_ConnRel   |   |         | RRC<br>connecti<br>on<br>release  |
| 70 |       | START t_WaitS ( 5 )   |   |         | Fatablia  |
| 71 |       | +ts_RRC_ConnEst( p_CellId, est_Reg, registration)   |   |         | Establis<br>h RRC<br>connecti<br>on   |
| 72 |       | Dc ? RRC_DataInd ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.ty pe, tcv_Start := RRC_DataInd.start )CANCEL t_WaitS | car_PS_InitDirectTransfer (tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v, ?)) |         | ATTACH<br>REQUE<br>ST –<br>Extract<br>Attach<br>type<br>requeste<br>d   |
| 73 |       | + ts_SS_SecurityDownloadStart ( ps_domain, tcv_Start )  |   |         |   |
| 74 |       | ? TIMEOUT t_WaitS   |   | F       | Here we finally FAIL the UE! [Note: Actually the timout will be handled by the default handler of ts_RRC _ConnE st] |
|    |       | It_GMMOnly_IdleUpdated  |   |         |   |
| 75 |       | + ts_MMI_UE_SwitchOn  |   |         |   |
| 76 |       | +lt_GMMOnly_TriggerAttach   |   |         |   |
| 77 |       | +ts_RRC_ConnEst( p_CellId, est_Reg, registration)   |   |         | Establis<br>h RRC<br>connecti<br>on   |
| 78 |       | +lt_AttachRequest   |   |         | ATTACH<br>REQUE<br>ST   |

|    |       | Test Step Dynamic                   | Behaviour       |         |   |
|----|-------|-------------------------------------|-----------------|---------|---|
| Nr | Label | Behaviour Description               | Constraints Ref | Verdict | Comments  |
| 79 |       | +ts_GMM_Authentication ( p_CellId ) |                 |         | AUTHE NTICATI ON AND CIPHER ING REQUE ST AUTHE NTICATI ON AND CIPHER        |
| 80 |       | +lt_SecurityMode                    |                 |         | ING<br>RESPO<br>NSE<br>SECURI   |
| 80 |       | +it_SecurityWode                    |                 |         | TY MODE COMMA ND SECURI TY MODE COMPL                                       |
| 81 |       | +lt_AttachAccept                    |                 |         | ETE ATTACH ACCEP T ATTACH COMPL ETE   |
| 82 |       | +lt_RRC_ConnRel                     |                 |         | RRC<br>connecti<br>on<br>release  |
|    |       | It_GMMOnly_TriggerAttach            |                 |         |   |
| 83 |       | [NOT pc_AutomaticAttachSwitchON]    |                 |         |   |
| 84 |       | +ts_NAS_Delay(tsc_TWaitSysInfo)     |                 |         | Allow UE to decode Sys Infos  |
| 85 |       | +ts_AT_TriggerGMM_Attach            |                 |         | Trigger UE to initiate GMM Attach after allowing the UE to decode Sys Infos |

|    | Test Step Dynamic Behaviour |  |  |         |   |  |  |
|----|-----------------------------|--|--|---------|---|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref  | Verdict | Comments  |  |  |
| 86 |                             | [TRUE]   |  |         | Do nothing: UE will automati cally attempt PS attach                  |  |  |
| 87 |                             | Dc ? RRC_DataInd ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.type, tcv_Start := RRC_DataInd.start ) | car_PS_InitDirectTransfer<br>(tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq (<br>c_AttachTypeAny,<br>c_MobileIdAny_Iv,<br>c_RAI_Any_v,<br>?)) |         | ATTACH<br>REQUE<br>ST –<br>Extract<br>Attach<br>type<br>requeste<br>d |  |  |
| 88 |                             | + ts_SS_SecurityDownloadStart ( ps_domain, tcv_Start )   |  |         |   |  |  |
| 89 |                             | It_LocUpdAcc   |  |         |   |  |  |
| 90 |                             | [tcv_Use_E_PLMN = FALSE]  Dc!RRC_DataReq   | ca_DataReq( tsc_CellDedicated, tsc_RB3, c_LocUpdAcpTMSI( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.mnc, tcv_TmpCellInfo.lac))                       |         | LOCATI<br>ON<br>UPDATI<br>NG<br>ACCEP<br>T                            |  |  |
| 91 |                             | Dc?RRC_DataInd   | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_TMSI_ReallocCmpl)   |         | TMSI<br>REALLO<br>CATION<br>COMPL<br>ETE                              |  |  |
| 92 |                             | [TRUE]   |  |         | [tcv_Us<br>e_E_PL<br>MN =<br>TRUE]                                    |  |  |
| 93 |                             | Dc!RRC_DataReq   | ca_DataReq( tsc_CellDedicated, tsc_RB3, c_LocUpdAcpTMSI_E_PLM N ( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.mnc, tcv_TmpCellInfo.lac, tcv_E_PLMN )) |         | LOCATI ON UPDATI NG ACCEP T including 'equivale nt PLMN list'         |  |  |
| 94 |                             | Dc?RRC_DataInd   | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_TMSI_ReallocCmpl)   |         | TMSI<br>REALLO<br>CATION<br>COMPL<br>ETE                              |  |  |
|    |                             | lt_SecurityMode  |  |         |   |  |  |

|     | Test Step Dynamic Behaviour |   |   |         |  |  |  |
|-----|-----------------------------|---|---|---------|--|--|--|
| Nr  | Label                       | Behaviour Description   | Constraints Ref   | Verdict | Comments   |  |  |
| 95  |                             | + ts_RRC_Security ( p_CellId, tcv_PS_AuthCK, tcv_PS_AuthIK, tcv_AuthKcGSM, TRUE, ps_domain)                         |   |         | SECURI<br>TY<br>MODE<br>COMMA<br>ND<br>SECURI<br>TY<br>MODE<br>COMPL<br>ETE  |  |  |
|     |                             | It_AttachAccept   |   |         |  |  |  |
| 96  |                             | [ (tcv_UE_OpMode = opModeA ) AND (tcv_TmpCellInfo.nmo = tsc_NMO_I) ]  |   |         | if UE is<br>mode A<br>and<br>NMO II  |  |  |
| 97  |                             | (tcv_AssignedTMSI :=px_TMSI_Def,<br>tcv_AssignedPTMSI :=px_PTMSI_Def,<br>tcv_Assigned_PTMSI_Sig := px_PTMSI_SigDef) |   |         | Use<br>default<br>values   |  |  |
| 98  |                             | [tcv_Use_E_PLMN = FALSE]  |   |         |  |  |  |
| 99  |                             | Dc ! RRC_DataReq  | ca_PS_DataReq(tsc_CellDe dicated, tsc_RB3, cs_AttachAcc( c_GMM_AttachResult('011' B), c_RAI_v( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.lac, tcv_TmpCellInfo.rac), c_PTMSI_Signature (tcv_Assigned_PTMSI_Sig), c_MobileIdPTMSI (tcv_AssignedPTMSI), c_GMM_MobileIdTMSI (tcv_AssignedTMSI))) |         | ATTACH ACCEP T for combine d CS/PS  - Attach result 'GPRS/I MSI attached , - RAI default - P-TMSI signatur e - MobileId P-TMSI - defaut TMSI |  |  |
| 100 |                             | Dc ? RRC_DataInd  | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, cr_AttachComplete)   |         | ATTACH<br>COMPL<br>ETE   |  |  |
| 101 |                             | [TRUE]  |   |         | [tcv_Us<br>e_E_PL<br>MN =<br>TRUE]   |  |  |

|            |       | Test Step Dynamic   | Behaviour   |         |  |
|------------|-------|---|---|---------|--|
| Nr         | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments   |
| 102        |       | Dc ! RRC_DataReq  | ca_PS_DataReq(tsc_CellDe dicated, tsc_RB3, cs_AttachAccE_PLMN( c_GMM_AttachResult('011' B), c_RAI_v(  |         | ATTACH<br>ACCEP<br>T for<br>combine<br>d CS/PS   |
|            |       |   | tcv_TmpCellInfo.mcc,<br>tcv_TmpCellInfo.mnc,<br>tcv_TmpCellInfo.lac,<br>tcv_TmpCellInfo.rac),<br>c_PTMSI_Signature<br>(tcv_Assigned_PTMSI_Sig), |         | - Attach<br>result<br>'GPRS/I<br>MSI<br>attached |
|            |       |   | c_MobileIdPTMSI<br>(tcv_AssignedPTMSI),<br>c_GMM_MobileIdTMSI   |         | - RAI<br>default                                 |
|            |       |   | (tcv_AssignedTMSI),<br>tcv_E_PLMN   |         | P-TMSI<br>signatur<br>e                          |
|            |       |   |   |         | MobileId<br>P-TMSI<br>- defaut<br>TMSI           |
|            |       |   |   |         | equivale<br>nt<br>PLMN<br>list                   |
| 103        |       | Dc ? RRC_DataInd  | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, cr_AttachComplete)   |         | ATTACH<br>COMPL<br>ETE                           |
| 104        |       | [TRUE]  |   |         | If mode<br>is C or if<br>NMO is<br>II            |
| 105        |       | ( tcv_AssignedPTMSI := px_PTMSI_Def,<br>tcv_Assigned_PTMSI_Sig := px_PTMSI_SigDef ) |   |         | Use<br>default<br>values                         |
| 106<br>107 |       | [tcv_Use_E_PLMN = FALSE]  Dc ! RRC_DataReq  | ca_PS_DataReq(tsc_CellDe dicated, tsc_RB3, cs_AttachAcc( c_GMM_AttachResult('001' B),   |         | ATTACH<br>ACCEP<br>T for PS<br>only              |
|            |       |   | c_RAI_v( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.mnc, tcv_TmpCellInfo.lac, tcv_TmpCellInfo.rac),   |         | - Attach<br>result<br>'GPRS<br>attached          |
|            |       |   | c_PTMSI_Signature (tcv_Assigned_PTMSI_Sig), c_MobileIdPTMSI (tcv_AssignedPTMSI),  |         | - RAI<br>default<br>(RAI-1)<br>-<br>P-TMSI       |
|            |       |   |   |         | -1<br>signatur<br>e                              |
|            |       |   |   |         | _<br>MobileId                                    |

|     |       | Test Step Dy            | namic Behaviour  |         |  |
|-----|-------|-------------------------|--|---------|--|
| Nr  | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments   |
| 108 |       | Dc ? RRC_DataInd [TRUE] | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, cr_AttachComplete)  |         | P-TMSI -1 - omit TMSI ATTACH COMPL ETE [tcv_Us   |
|     |       |                         |  |         | e_E_PL<br>MN =<br>TRUE]  |
| 110 |       | Dc! RRC_DataReq         | ca_PS_DataReq(tsc_CellDe dicated, tsc_RB3, cs_AttachAccE_PLMN( c_GMM_AttachResult('001' B), c_RAI_v( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.lac, tcv_TmpCellInfo.rac), c_PTMSI_Signature (tcv_Assigned_PTMSI_Sig), c_MobileIdPTMSI (tcv_AssignedPTMSI), -, tcv_E_PLMN )) |         | ATTACH ACCEP T for PS only  - Attach result 'GPRS attached ,  - RAI default (RAI-1) - P-TMSI -1 signatur e - |
|     |       |                         |  |         | MobileId P-TMSI -1 - omit TMSI - equivale nt PLMN  |
| 111 |       | Dc ? RRC_DataInd        | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, cr_AttachComplete)  |         | list<br>ATTACH<br>COMPL<br>ETE   |
|     |       | lt_RRC_ConnRel          |  |         | <u> </u>   |

|     |       | Test Step Dynamic   | Behaviour       |         |          |
|-----|-------|---|-----------------|---------|----------|
| Nr  | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 112 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2PRACH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2) ] |                 |         |          |
| 113 |       | + ts_RRC_ConnRel ( p_CellId, cell_Fach_Dcch )   |                 |         |          |
| 114 |       | [ tcv_TmpCellInfo.cellConfig <> cell_FACH ]   |                 |         |          |
| 115 |       | + ts_RRC_ConnRel ( p_CellId, cell_Dch )   |                 |         |          |

Detailed Comments : See 3GPP 24.008 / 4.7 and also 3GPP 34.108 / 7.2.2 (Registration on PS)

See also the detailed description in test Step ts\_MM\_IdleUpdated, on which this test Step is based.

Test Step Name : ts\_IdleUpdated (p\_CellId: INTEGER)

Group : BasicM\_MM\_GMM\_Steps/

Objective : To bring the UE into MM and/or GMM state Idle Updated

Default : NAS\_OtherwiseFail
Comments : Initial conditions:

- The UE is initially switched off

- The cell referred has been properly configured.

Note-1: The cell settings (like PLMN, LAC and RAC) used during the registration procedure are

extracted from cell info record in tcv\_CellInfoX

Note-2: If 'equivalent PLMN list' is to be used, please set global variable tcv\_Use\_E\_PLMN to TRUE

and accordingly initialise tcv\_E\_PLMN

Description

| Nr | Label | Behaviour Description            | Constraints Ref | Verdict | Comments   |
|----|-------|----------------------------------|-----------------|---------|--|
| 1  |       | [pc_CS AND pc_PS]                |                 |         | both CS<br>and PS<br>supporte<br>d and<br>for<br>testing |
| 2  |       | +ts_GMM_IdleUpdated ( p_CellId ) |                 |         |  |
| 3  |       | [pc_CS]                          |                 |         | CS<br>supporte<br>d and<br>for<br>testing                |
| 4  |       | +ts_MM_IdleUpdated (p_CellId)    |                 |         |  |
| 5  |       | [pc_PS]                          |                 |         | PS<br>supporte<br>d and<br>for<br>testing                |
| 6  |       | +ts_GMM_IdleUpdated ( p_CellId ) |                 |         |  |
| 7  | ERR1  | [TRUE]                           |                 | 1       |  |

**Detailed Comments**: Parameter description:

\_\_\_\_\_

p\_CellIId Cell Identification INTEGER

Test Step Name: ts\_MM\_Authentication (p\_CellId: INTEGER)

Group : BasicM\_MM\_GMM\_Steps/ Objective : Normal authentication Default : NAS\_OtherwiseFail

Comments : To be used after the synchronization of the authentication in both SS and UE has been achieved.

Description

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments   |
|----|-------|---|---|---------|--|
| 1  |       | +ts_MM_AuthenticationInit   |   |         | 1.   |
| 2  |       | Dc!RRC_DataReq  | ca_DataReq ( tsc_CellDedicated, tsc_RB3, c_AuthReq ( tcv_CS_KeySeq, tcv_AuthRAND, c_AUTN( tcv_AuthAUTN))) |         | Authenti<br>cation<br>Request                                  |
| 3  |       | Dc?RRC_DataInd ( tcv_AuthRspPDU := RRC_DataInd.msg, tcv_AuthRsp := tcv_AuthRspPDU.authRsp, tcv_AuthRspExt := tcv_AuthRspPDU.authRspExt) | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_AuthRspAnyExt)                                   |         | Authenti<br>cation<br>Respons<br>e with<br>extensio<br>n       |
| 4  |       | (tcv_Res := o_AuthRspChk ( tcv_AuthRsp, tcv_AuthRspExt, tcv_AuthK, tcv_AuthRAND, TRUE))   |   |         |  |
| 5  | TSF1  | [tcv_Res = FALSE]   |   | (F)     |  |
| 6  |       | [tcv_Res = TRUE]  |   |         |  |
| 7  |       | Dc?RRC_DataInd( tcv_AuthRspPDU:=RRC_DataInd.msg, tcv_AuthRsp:=tcv_AuthRspPDU.authRsp)   | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_AuthRspAnyNoExt)                                 |         | Authenti<br>cation<br>Respons<br>e<br>without<br>extensio<br>n |
| 8  |       | ( tcv_Res := o_AuthRspChk ( tcv_AuthRsp, tcv_AuthRspExt, tcv_AuthK, tcv_AuthRAND, FALSE ) )   |   |         |  |
| 9  | TSF2  | [tcv_Res = FALSE]   |   | (F)     |  |
| 10 |       | [tcv_Res = TRUE]  |   |         |  |
| 11 | TSF3  | Dc?RRC_DataInd  | car_UplinkDirectTransfer (<br>tsc_CellDedicated,<br>tsc_RB3,<br>c_AuthFailAny)                            | (F)     | 2.   |

- Detailed Comments: Normal authentication to be used after the synchronization between SS and UE has been performed successfully.
  - 1. Authentication request is sent by the network. Key Sequence and RAND as provided by the corresponding variables tcv\_KeySeq and tcv\_AuthRAND.
  - 2. If the UE generates a response, this response may consist of 2 parts which have to be extracted from the received message.
  - 3. The response is checked against an expected response calculated using a test suite operation.
  - 4. If the comparison of expected and calculated response is not ok, then authentication fails.
  - 5. Otherwise authentication is granted.
  - 6. If the UE sends an Authentication Failure the authentication fails. Steps:

- Detailed Comments: ...

  1. Initialization of the authentication variables (see 34.108 cl. 8.1.2)

  2. Authentication Failure: should not happen because the synchronization has been done already

Test Step Name : ts\_MM\_AuthenticationInit
Group : BasicM\_MM\_GMM\_Steps/

**Objective**: Initialization of variables related to authentication.

**Default**: NAS\_OtherwiseFail

**Comments**: Based on TS 34.108 cl. 8.1.2 and TS 33.102 cl.s 6.3 and 6.8.1.2

Description :

| Nr | Label | Behaviour Description             | Constraints Ref | Verdict | Comments           |
|----|-------|-----------------------------------|-----------------|---------|--------------------|
| 1  |       | +lt_IncrementCiphKeySeqNum        |                 |         |                    |
| 2  |       | +lt_AuthCalcAUTN                  |                 |         | 1.                 |
|    |       |                                   |                 |         | Calculati on of    |
|    |       |                                   |                 |         | AUTN               |
|    |       |                                   |                 |         | needed<br>for      |
|    |       |                                   |                 |         | Authenti           |
|    |       |                                   |                 |         | cation             |
|    |       | old Andreas Indiana               |                 |         | Request            |
| 3  |       | +lt_AuthCalcUMTS_Others           |                 |         | 2.<br>Calculati    |
|    |       |                                   |                 |         | on of              |
|    |       |                                   |                 |         | other<br>authenti  |
|    |       |                                   |                 |         | cation             |
|    |       |                                   |                 |         | informati          |
|    |       |                                   |                 |         | on<br>needed       |
|    |       |                                   |                 |         | (IK, CK,           |
|    |       |                                   |                 |         | XRES)              |
| 4  |       | +lt_AuthCalcKcGSM                 |                 |         | 3.<br>Calculati    |
|    |       |                                   |                 |         | on of Kc           |
|    |       |                                   |                 |         | GSM,               |
|    |       |                                   |                 |         | using IK<br>and CK |
|    |       | <br>  It_IncrementCiphKeySeqNum   |                 |         |                    |
| 5  |       | [tcv_CS_KeySeq = '000'B]          |                 |         |                    |
| 6  |       | (tcv_CS_KeySeq := '001'B)         |                 |         |                    |
| 7  |       | [tcv_CS_KeySeq = '001'B]          |                 |         |                    |
| 8  |       | (tcv_CS_KeySeq := '010'B)         |                 |         |                    |
| 9  |       | [tcv_CS_KeySeq = '010'B]          |                 |         |                    |
| 10 |       | (tcv_CS_KeySeq := '011'B)         |                 |         |                    |
| 11 |       | [tcv_CS_KeySeq = '011'B]          |                 |         |                    |
| 12 |       | (tcv_CS_KeySeq := '100'B)         |                 |         |                    |
| 13 |       | [tcv_CS_KeySeq = '100'B]          |                 |         |                    |
| 14 |       | (tcv_CS_KeySeq := '101'B)         |                 |         |                    |
| 15 |       | [tcv_CS_KeySeq = '101'B]          |                 |         |                    |
| 16 |       | (tcv_CS_KeySeq := '110'B)         |                 |         |                    |
| 17 |       | [TRUE]                            |                 |         |                    |
| 18 |       | (tcv_CS_KeySeq := '000'B)         |                 |         |                    |
| 1. |       | It_AuthCalcAUTN                   |                 |         |                    |
| 19 |       | (tcv_AuthXDOUT := o_BitstringXOR( |                 |         | XDOUT<br>:= RAND   |
|    |       | tcv_AuthRAND,                     |                 |         | XOR K              |
|    |       | tcv_AuthK,                        |                 |         |                    |
|    |       | 128))                             |                 |         |                    |

|    | Test Step Dynamic Behaviour |  |                 |         |   |  |  |
|----|-----------------------------|--|-----------------|---------|---|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments  |  |  |
| 20 |                             | (tcv_AuthCDOUT := o_BitstringConcat( tsv_AuthSQN, tcv_AuthAMF, 48, 16))                              |                 |         | CDOUT<br>:= SQN<br>   AMF                                   |  |  |
| 21 |                             | (tcv_AuthXDOUT_Half := o_BitstringXtract( tcv_AuthXDOUT, 128, 64, 0))                                |                 |         | XDOUT _half := 64 bits of XDOUT starting from offset 0      |  |  |
| 22 |                             | (tcv_AuthAK := o_BitstringXtract( tcv_AuthXDOUT, 128, 48, 24))                                       |                 |         | AK := 48 bits of XDOUT starting from offset 24              |  |  |
| 23 |                             | <pre>(tcv_AuthAUTN_1 := o_BitstringXOR(   tsv_AuthSQN,   tcv_AuthAK, 48))</pre>                      |                 |         | AUTN1<br>:= SQN<br>XOR AK                                   |  |  |
| 24 |                             | (tcv_AuthMAC := o_BitstringXOR( tcv_AuthXDOUT_Half, tcv_AuthCDOUT, 64))                              |                 |         | MAC :=<br>XDOUT<br>_half<br>XOR<br>CDOUT                    |  |  |
| 25 |                             | <pre>(tcv_AuthAUTN_2 :=   o_BitstringConcat(   tcv_AuthAMF,   tcv_AuthMAC,   16,   64))</pre>        |                 |         | AUTN2<br>:= AMF<br>   MAC                                   |  |  |
| 26 |                             | (tcv_AuthAUTN := o_BitstringConcat( tcv_AuthAUTN_1, tcv_AuthAUTN_2, 48, 80))  It_AuthCalcUMTS_Others |                 |         | AUTN<br>:=<br>AUTN1<br>  <br>AUTN2                          |  |  |
| 27 |                             | (tcv_AuthIK := o_BitstringXtract( tcv_AuthXDOUT, 128, 128, 16))                                      |                 |         | IK := 128 bits of XDOUT starting from offset 16 (wrappin g) |  |  |

|    | Test Step Dynamic Behaviour |   |                 |         |  |  |  |
|----|-----------------------------|---|-----------------|---------|--|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments   |  |  |
| 28 |                             | (tcv_AuthCK := o_BitstringXtract( tcv_AuthXDOUT, 128, 128, 8))                |                 |         | CK := 128 bits of XDOUT starting from offset 8 (wrappin        |  |  |
| 29 |                             | (tcv_AuthXRES := o_BitstringXtract( tcv_AuthXDOUT, 128, (tcv_AuthN + 1), 0))  |                 |         | g) XRES := (n+1) bits of XDOUT starting from offset 0          |  |  |
| 30 |                             | It_AuthCalcKcGSM (tcv_AuthCK_1 := o_BitstringXtract( tcv_AuthCK, 128, 64, 0)) |                 |         | CK1 :=<br>64 bits<br>of CK<br>starting<br>from<br>offset 0     |  |  |
| 31 |                             | (tcv_AuthCK_2 := o_BitstringXtract( tcv_AuthCK, 128, 64, 64))                 |                 |         | CK2 := 64 bits of CK starting from offset 64                   |  |  |
| 32 |                             | (tcv_AuthIK_1 := o_BitstringXtract( tcv_AuthIK, 128, 64, 0))                  |                 |         | IK1 := 64 bits of IK starting from offset 0                    |  |  |
| 33 |                             | (tcv_AuthIK_2 := o_BitstringXtract( tcv_AuthIK, 128, 64, 64))                 |                 |         | IK2 :=<br>64 bits<br>of IK<br>starting<br>from<br>offset<br>64 |  |  |
| 34 |                             | (tcv_AuthCK_XOR := o_BitstringXOR( tcv_AuthCK_1, tcv_AuthCK_2, 64))           |                 |         | CK_XO<br>R :=<br>CK1<br>XOR<br>CK2                             |  |  |
| 35 |                             | (tcv_AuthIK_XOR := o_BitstringXOR( tcv_AuthIK_1, tcv_AuthIK_2, 64))           |                 |         | IK_XOR<br>:= IK1<br>XOR IK2                                    |  |  |

|    | Test Step Dynamic Behaviour |  |                 |         |   |  |  |
|----|-----------------------------|--|-----------------|---------|---|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments  |  |  |
| 36 |                             | (tcv_AuthKcGSM := o_BitstringXOR( tcv_AuthCK_XOR, tcv_AuthIK_XOR, 64)) |                 |         | KcGSM := CK_XO R XOR IK_XOR (= CK1 XOR CK2 XOR IK1 XOR IK2) |  |  |

**Detailed Comments**: Initialization of the variables needed for authentication. The calculation is done according to the

prescription of TS 34.108 cl. 8.1.2. and TS 33.102 cl. 6.8.1.2
The AUTN calculated is used as parameter of the Authentication Request.
CK, IK and Kc GSM are used by RRC.

XRES is used to check the RES contained in Authentication Response.

**Test Step Name**: ts\_MM\_IdleUpdated (p\_CellId: INTEGER)

Group : BasicM\_MM\_GMM\_Steps/

Objective : To bring the UE into MM state Idle Updated - CS mode, general case

Default : NAS\_OtherwiseFail

Comments : Before IdleUpdated can be used a Cell is to be created and System Information must be sent. This test

Step covers the general case: the UE has a valid TMSI.

Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments   |
|----|-------|--|--|---------|--|
| 1  |       | +ts_SetTmpCellInfo (p_CellId)  |  |         | Fetch<br>SS_CellI<br>nfo<br>table<br>correpo<br>nding to<br>the cell     |
| 2  |       | +ts_MM_PwrOrUSIM_On(tsc_USIM_NeedRmv)                                |  |         | 2.<br>Activate<br>the UE   |
| 3  |       | START t_Dly (150000)   |  |         | 3. Supervis e the receptio n of the expecte d Location Updatin g Request |
| 4  |       | + ts_RRC_ConnEst ( p_CellId, est_Reg, OMIT)                          |  |         | Connect<br>ion<br>Establis<br>hment<br>MO                                |
| 5  |       | Dc?RRC_DataInd<br>( tcv_Start := RRC_DataInd.start )<br>CANCEL t_Dly | car_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cb_LocUpdReqAny(?)) |         | 4. Any<br>Location<br>Update<br>request                                  |
| 6  |       | + ts_SS_SecurityDownloadStart ( cs_domain, tcv_Start )               |  |         |  |
| 7  |       | +ts_MM_Authentication(p_CellId)                                      |  |         | 4.1<br>Authenti<br>cation  |
| 9  |       | +ts_RRC_Security ( p_CellId,   |  |         |  |

|    |       | Test Step Dynam                       | ic Behaviour   |         |   |
|----|-------|---------------------------------------|--|---------|---|
| Nr | Label | Behaviour Description                 | Constraints Ref  | Verdict | Comments  |
| 10 |       | Dc!RRC_DataReq                        | ca_DataReq( tsc_CellDedicated, tsc_RB3, c_LocUpdAcpTMSI( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.mnc, tcv_TmpCellInfo.lac))                       |         | 4.2<br>Location<br>Updatin<br>g Accept<br>without<br>'equivale<br>nt<br>PLMN<br>list'   |
| 11 |       | Dc?RRC_DataInd                        | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_TMSI_ReallocCmpl)   |         | 4.3<br>TMSI<br>reallocati<br>on<br>complete   |
| 12 |       | + It_RRC_ConnRel                      |  |         | Connect<br>ion<br>Release   |
| 13 |       | [TRUE]                                |  |         | [tcv_Us<br>e_E_PL<br>MN =<br>TRUE]  |
| 14 |       | Dc!RRC_DataReq                        | ca_DataReq( tsc_CellDedicated, tsc_RB3, c_LocUpdAcpTMSI_E_PLM N ( tcv_TmpCellInfo.mcc, tcv_TmpCellInfo.mnc, tcv_TmpCellInfo.lac, tcv_E_PLMN )) |         | 4.2<br>Location<br>Updatin<br>g Accept<br>including<br>'equivale<br>nt<br>PLMN<br>list' |
| 15 |       | Dc?RRC_DataInd                        | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_TMSI_ReallocCmpl)   |         | 4.3<br>TMSI<br>reallocati<br>on<br>complete   |
| 16 |       | + It_RRC_ConnRel                      |  |         | Connect<br>ion<br>Release   |
| 17 | 1     | RRC_ConnRel<br>/_Use_E_PLMN := FALSE) |  |         | De-initia<br>lise the<br>variable<br>tcv_Use<br>_E_PLM<br>N                             |

|    |       | Test Step Dynamic  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 18 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH) OR                   |                 |         |          |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH )] |                 |         |          |
| 19 |       | + ts_RRC_ConnRel ( p_CellId, cell_Fach_Dcch )                    |                 |         |          |
| 20 |       | [ tcv_TmpCellInfo.cellConfig <> cell_FACH ]                      |                 |         |          |
| 21 |       | + ts_RRC_ConnRel ( p_CellId, cell_Dch )                          |                 |         |          |

**Detailed Comments**: Parameter description:

\_\_\_\_\_

p\_CellIId Cell Identification INTEGER

### Algorithm/Steps:

- 1. UE is deactivated
- 2. UE is activated
- 3. Location registration is expected to happen within time TwaitLocUpdReq
- 4. The location registration is accepted, and a new TMSI the default TMSI used for testing is passed to the UE. The UE stores the newly provided TMSI.
- 4.1 Authentication with default values
- 4.2 Location Updating Accept with default TMSI and MNC, MCC, LAI
- 4.3 Completion of the TMSI reallocation procedure
- 5. If NO Location Updating Request is received, ie the timer supervising the receipt of the Location registration runs out, this is assumed to be due to the fact that the PLMN is in the forbidden list. In this case local test Step It\_RmvFbdnList is executed to clear this situation.
- 6. This should not happen, so the verdict is INCONCLUSIVE. Resources are to be released properly and automatic PLMN selection is to be restablished.

Test Step Name : ts\_MM\_PwrOrUSIM\_Off (p\_USIM\_Rmvd : BOOLEAN)

Group : BasicM\_MM\_GMM\_Steps/
Objective : Deactivation of the UE

Default : NAS\_OtherwiseFail

Comments : Depending upon UE's properties (USIM removal, switching off or powering off)

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments      |
|----|-------|-------------------------|-----------------|---------|---------------|
| 1  |       | [( p_USIM_Rmvd) AND     |                 |         | SIM           |
|    |       | (pc_USIM_Rmv)]          |                 |         | needs to      |
|    |       |                         |                 |         | be            |
|    |       |                         |                 |         | removed       |
| ١, |       | A MAN LICIM Demove      |                 |         |               |
| 2  |       | +ts_MMI_USIM_Remove     |                 |         | remove<br>SIM |
|    |       |                         |                 |         | card          |
| 3  |       | [pc_SwitchOnOff]        |                 |         |               |
| 4  |       | +ts_MMI_UE_SwitchOff    |                 |         | switch        |
| -  |       | +t3_IVIIVII_OL_OWIGHOII |                 |         | off the       |
|    |       |                         |                 |         | UE            |
| 5  |       | ITRUE 1                 |                 |         |               |
| 6  |       | +ts MMI UE PwrOff       |                 |         | power         |
| ľ  |       | 113_1WIWII_OL_1 WIOII   |                 |         | off the       |
|    |       |                         |                 |         | UE            |

**Detailed Comments**: There are 2 types of deactivation required for testing:

1. USIM removal or switching off or removal of the power source

2. Switching off or removal of the power source

Parameter p\_USIM\_Rmvd controls the variant to be applied:

1. tsc\_USIM\_NeedRmv(=TRUE): variant 1 is to be used, the USIM is to be removed if possible

Test Step Name: ts\_MM\_PwrOrUSIM\_On (p\_USIM\_Rmvd: BOOLEAN)

Group : BasicM\_MM\_GMM\_Steps/

Objective : Activation of the UE
Default : NAS\_OtherwiseFail

Comments : Depending upon the UE's properties (USIM insertion, switching on or powering on)

Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments                    |
|----|-------|---|-----------------|---------|-----------------------------|
| 1  |       | [(p_USIM_Rmvd) AND (pc_USIM_Rmv)]   |                 |         | USIM<br>has been<br>removed |
| 2  |       | +ts_MMI_USIM_Insert   |                 |         | insert<br>USIM<br>card      |
| 3  |       | [pc_SwitchOnOff]  |                 |         |                             |
| 4  |       | +ts_MMI_UE_SwitchOn   |                 |         | switch<br>on the<br>UE      |
| 5  |       | [(((NOT p_USIM_Rmvd) OR<br>(NOT pc_USIM_Rmv)) AND<br>(NOT pc_SwitchOnOff))] |                 |         |                             |
| 6  |       | +ts_MMI_UE_PwrOn  |                 |         | power<br>on the<br>UE       |

**Detailed Comments**: There are 2 types of activation required for testing:

1. USIM insertion or switching on or restoration of the power source

2. Switching on or restoration of the power source

Parameter p\_USIM\_Rmvd controls the variant to be applied:

1. tsc\_USIM\_NeedRmv(=TRUE): variant 1 is to be used, the USIM is to be inserted if possible

This test Step is the counterpart to  $ts\_MM\_PwrOrUSIM\_Off$  resp  $ts\_MM\_IMSI\_Detach$ .

Test Step Name : po\_ConnectionAndSS\_Rel ( p\_CellId : INTEGER )

Group : BasicM\_Postambles/

**Objective**: To release the existing RRC connection and release the channels that are configured in the SS.

Default : RRC\_Def1

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |          |
| 2  |       | [ tcv_TmpCellInfo.cellConfig <> cell_NotConfigured ]   |                 |         |          |
| 3  |       | + It_Send_RRC_ConnectionRelease  |                 |         |          |
| 4  |       | + ts_SS_Rel ( p_CellId )   |                 |         |          |
| 5  |       | [ tcv_TmpCellInfo.cellConfig = cell_NotConfigured ]  |                 | I       | 0.       |
|    |       | lt_Send_RRC_ConnectionRelease  |                 |         |          |
| 6  |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_NoDPCH ) OR   |                 |         | 3.       |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoDedicated) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_StandAlonePCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRBO_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1_NoCon n) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoCon n)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_NoCon n)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_No Conn) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_StandAlonePCH_2a_NoC onn)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a_NoC onn)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a_NoC onn)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a_NoC onn)OR |                 |         |          |
|    |       | cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_No Conn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_No   |                 |         |          |
|    |       | Conn)]   |                 |         |          |

|    | Test Step Dynamic Behaviour |  |   |         |          |  |  |
|----|-----------------------------|--|---|---------|----------|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref   | Verdict | Comments |  |  |
| 7  |                             | [TRUE]   |   |         | 4.       |  |  |
| 8  |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRBO ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_SCCPCH_StandAlonePCH)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2)OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_Cnfg2)OR ( tcv_TmpCellInfo. |   |         | 1.       |  |  |
|    |                             | cell_FACH_3_SCCPCH_3_FACH_CTCH)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)O R (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)O R (tcv_TmpCellInfo.cellConfig=cell_FACH_2SCCP CH_StandAlonePCH_PS_2a)]  |   |         |          |  |  |
| 9  |                             | UM!RLC_UM_DATA_REQ   | cas_RRC_ConnReIDCCH ( tsc_CellDedicated, tsc_RB1, cs_108_RRC_ConnReIDCC H(tcv_CellIndInfo.dl_Integri tyCheckInfo, tcv_RRC_Ti, OMIT )) |         |          |  |  |
| 10 |                             | AM?RLC_AM_DATA_IND   | car_RRC_ConnRelCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RRC_ConnRelCm pl (tcv_RRC_Ti))  | (P)     |          |  |  |
| 11 |                             | + ts_RRC_Delay(<br>tsc_DelayAfterRRC_ConnRel)  |   |         |          |  |  |
| 12 |                             | [TRUE]   |   |         | 2.       |  |  |

|    |       | Test Step Dynami  | ic Behaviour   |         |   |
|----|-------|---|--|---------|---|
| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments  |
| 13 |       | ( tcv_N308 := 1, tcv_K := 1 )   |  |         | Maximu m number of retransm issions of the RRC CONNE CTION RELEAS E COMPL ETE |
| 14 |       | UM!RLC_UM_DATA_REQ  | cas_RRC_ConnRelDCCH ( tsc_CellDedicated, tsc_RB1, cs_108_RRC_ConnRelDCC H(tcv_CellIndInfo.dl_Integri tyCheckInfo, tcv_RRC_Ti, tcv_N308)) |         | message   |
| 15 |       | UM?RLC_UM_DATA_IND  | car_RRC_ConnRelCmplUM( tsc_CellDedicated, tsc_RB1, cbr_108_RRC_ConnRelCm pl (tcv_RRC_Ti))  | (P)     |   |
| 16 |       | REPEAT It_RptRcvConnRel UNTIL [ tcv_K = (tcv_N308+1)]  It_RptRcvConnRel |  |         | UE sends RRC Connect ion Release Complet e for N308 times                     |
| 17 |       | START t_Dly   |  |         |   |
| 18 | TSF2  | ? TIMEOUT t_Dly   |  | (F)     |   |
| 19 |       | ( tcv_K := tcv_N308 + 1 )   |  |         | To stop<br>the loop   |
| 20 | TSP2  | UM?RLC_UM_DATA_IND<br>( tcv_K := tcv_K+1 ) CANCEL t_Dly                 | car_RRC_ConnRelCmplUM<br>( tsc_CellDedicated ,<br>tsc_RB1,   | (P)     | Retrans<br>mission  |
|    |       |   | cbr_108_RRC_ConnRelCm<br>pl ( tcv_RRC_Ti )<br>)  |         |   |

**Detailed Comments**: 0. The cell has not been configured, it shall not be released 1. cell\_FACH state

2. cell\_DCH state

3. No RRC connection is established

4. An RRC connection is established

Test Step Name : ts\_RRC\_SetUpRAB\_AM\_15\_RLC ( p\_Cellid: INTEGER; p\_RAB\_Id : BITSTRING; p\_RLC\_Info :

RLC\_Info)

Group : BasicM\_RRC\_Steps/RRC\_RAB\_Steps/

Objective :

Default : RRC\_Def1

Comments: This test step performs an RB setup procedure to configure RB10 in the UE as an AM DTCH entity

that should use 15 bit length indicators. Reference 3G TS 34.108 clause 6.11.4.

The corresponding entity in the SS is configured as TM, but with an identical transport block size. The AM header information is specified in the TTCN for DL, and can be inspected by the TTCN for UL.

**Parameters** 

p\_CellId: The cell id to use for signalling, and configuration of the RB for testing.

p\_RAB\_Id: The RAB Id to be used within the RB SETUP message.

p\_RLC\_Info: The RLC configuration information to be used within the RB setup message for DTCH. This parameter is provided so that different configurations can be used to meet the requirements of

each specific test case.

Description

|    |       | T   |   | ı       | 1        |
|----|-------|---|---|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |   |         |          |
| 2  |       | CPHY ! CPHY_Frame_Number_REQ  | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                     |         |          |
| 3  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber)   | car_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                     |         |          |
| 4  |       | ( tcv_ActTime := (256 + tcv_FrameNumber –<br>( tcv_FrameNumber MOD 8 + 8)) MOD 256,<br>tcv_TGCFN := (tcv_FrameNumber + (256 –<br>4)) MOD 256)   |   |         |          |
| 5  |       | + It_SendRAB_SetupCS_OrPS   |   |         |          |
| 6  |       | AM ? RLC_AM_DATA_CNF  | car_AM_DataMuiCnf (<br>tsc_CellDedicated, tsc_RB2,<br>tsc_Mui ) |         |          |
| 7  |       | +ts_SS_2DCH_Modify (     p_CellId,     c_DCH_1344_148_UL_InfoRLC (     tcv_ActTime) ,     c_DCH_1344_148_DL_InfoRLC (     tcv_ActTime) ,     c_TrChInfoUL_1344_148_RLC,     c_TrChInfoDL_1344_148_RLC,  c_TrLogMappingUL_4DCCH_1DTCH_ RLC(     tsc_RB_AM_15_RLC ),  c_TrLogMappingDL_4DCCH_1DTCH_ RLC(     tsc_RB_AM_15_RLC ),  c_TrLogMappingDL_4DCCH_1DTCH_ RLC(     tsc_RB_AM_15_RLC ),  tcv_ActTime,     cb_DL_DPCH_64K_PS (     c_DL_CommonInformationRB_SetUp (     tsc_DL_DPCH1_SFP_RLC),     tcv_TmpCellInfo.dl_DPCH_2ndScrCode |   |         |          |
|    |       | ),<br>cb_UL_DPCH_Info (<br>tsc_UL_DPDCH_SF_RLC, pl1, tcv_Tm   |   |         |          |

|    |       | Test Step Dynamic   | Behaviour   |         |          |
|----|-------|---|---|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|    |       | pCellInfo.uL_ScramblingCode)<br>)   |   |         |          |
| 8  |       | +ts_SS_RB_TM_Cfg_RLC(1344,<br>tsc_RB_AM_15_RLC)                             |   |         |          |
| 9  | TSP   | + ts_RRC_ReceiveRB_SetupCmpl (<br>p_CellId ,<br>cell_RLC_DCH_AM_RAB_15Lis ) |   |         |          |
| 10 |       | + ts_SetCellCfg ( p_CellId, cell_RLC_DCH_AM_RAB_15Lis )                     |   |         |          |
|    |       | It_SendRAB_SetupCS_OrPS   |   |         |          |
| 11 |       | [ tcv_CN_Domain = cs_domain ]   | and DR Catlin AM With Caf   |         |          |
| 12 |       | AM ! RLC_AM_DATA_REQ  | cas_RB_SetUpAM_WithCnf<br>(<br>tsc_CellDedicated,<br>tsc_RB2,<br>tsc_Mui,<br>cs_RRC_RB_SetUp(   |         |          |
|    |       |   | tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, tcv_ActTime, cell_DCH, OMIT, c_RAB_InfoListRLC( p_RAB_Id, p_RLC_Info, cs_domain, tsc_RB10 ), c_UL_CommTrChInfoRLC, c_UL_AddReconfTransChIn foList15_RLC, c_DL_CommonTransChInfo SameAsUL, |         |          |
|    |       |   | c_DL_AddReconfTransChIn foListRLC,  |         |          |
|    |       |   | c_DL_CommonInformation RB_SetUp ( tsc_DL_DPCH1_SFP_RLC ),     cb_UL_DPCH_Info (tsc_UL_DPDCH_SF_RLC, pl1, tcv_TmpCellInfo.uL_Scrambl ingCode ),     OMIT     )   |         |          |

|      |          | Test Step Dyn                 | amic Behaviour                                       |         |          |
|------|----------|-------------------------------|--|---------|----------|
| Nr   | Label    | Behaviour Description         | Constraints Ref                                      | Verdict | Comments |
|      |          |                               | )  |         |          |
| 13   |          | [ tcv_CN_Domain = ps_domain ] |  |         |          |
| 14   |          | AM!RLC_AM_DATA_REQ            | cas_RB_SetUpAM_WithCnf                               |         |          |
|      |          |                               | tsc_CellDedicated,                                   |         |          |
|      |          |                               | tsc_RB2,   |         |          |
|      |          |                               | tsc_Mui,   |         |          |
|      |          |                               | cs_RRC_RB_SetUp(                                     |         |          |
|      |          |                               | tcv_CellIndInfo.dl_Integrity                         |         |          |
|      |          |                               | CheckInfo,   |         |          |
|      |          |                               | tcv_RRC_Ti,  |         |          |
|      |          |                               | tcv_ActTime,   |         |          |
|      |          |                               | cell_DCH,<br>OMIT,                                   |         |          |
|      |          |                               | c_RAB_InfoListRLC(                                   |         |          |
|      |          |                               | p_RAB_ld,  |         |          |
|      |          |                               | p_RLC_Info,  |         |          |
|      |          |                               | ps_domain,<br>tsc_RB20                               |         |          |
|      |          |                               | ),   |         |          |
|      |          |                               | c_UL_CommTrChInfoRLC,                                |         |          |
|      |          |                               |  |         |          |
|      |          |                               | c_UL_AddReconfTransChIn foList15_RLC,                |         |          |
|      |          |                               | a Di Camman Trans Chinta                             |         |          |
|      |          |                               | c_DL_CommonTransChInfo<br>SameAsUL,                  |         |          |
|      |          |                               | c_DL_AddReconfTransChIn                              |         |          |
|      |          |                               | foListRLC,   |         |          |
|      |          |                               | c_DL_InformationPerRL (<br>tcv_TmpCellInfo.priScrmCo |         |          |
|      |          |                               | de,  |         |          |
|      |          |                               | tsc_DL_DPCH1_ChC_RLC                                 |         |          |
|      |          |                               | tcv_TmpCellInfo.dl_DPCH_                             |         |          |
|      |          |                               | 2ndScrCode ),  |         |          |
|      |          |                               | c_DL_CommonInformation                               |         |          |
|      |          |                               | RB_SetUp (   |         |          |
|      |          |                               | tsc_DL_DPCH1_SFP_RLC                                 |         |          |
|      |          |                               | ),<br>cb_UL_DPCH_Info                                |         |          |
|      |          |                               | (tsc_UL_DPDCH_SF_RLC,                                |         |          |
|      |          |                               | pl1,   |         |          |
|      |          |                               | tcv_TmpCellInfo.uL_Scrambl                           |         |          |
|      |          |                               | ingCode ), OMIT                                      |         |          |
|      |          |                               |  |         |          |
|      | <u> </u> |                               | ) ′  |         |          |
| Deta | iled Com | nments :                      |  |         |          |

Test Step Name : ts\_RRC\_SetUpRAB\_AM\_7\_RLC ( p\_Cellid: INTEGER; p\_RAB\_id : BITSTRING; p\_RLC\_Info :

RLC\_Info)

Group : BasicM\_RRC\_Steps/RRC\_RAB\_Steps/

Objective :

Default : RRC\_Def1

Comments: This test step performs an RB setup procedure to configure RB10 in the UE as an AM DTCH entity

that should use 7 bit length indicators. Reference 3G TS 34.108 clause 6.11.3.

The corresponding entity in the SS is configured as TM, but with an identical transport block size. The AM header information is specified in the TTCN for DL, and can be inspected by the TTCN for UL.

**Parameters** 

p\_CellId: The cell id to use for signalling, and configuration of the RB for testing.

p\_RAB\_Id: The RAB Id to be used within the RB SETUP message.

p\_RLC\_Info: The RLC configuration information to be used within the RB setup message for DTCH. This parameter is provided so that different configurations can be used to meet the requirements of

each specific test case.

Description

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |   |         |          |
| 2  |       | CPHY ! CPHY_Frame_Number_REQ   | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 3  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber)  | car_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 4  |       | ( tcv_ActTime := (256 + tcv_FrameNumber –<br>( tcv_FrameNumber MOD 8 + 8)) MOD 256,<br>tcv_TGCFN := (tcv_FrameNumber + (256 –<br>4)) MOD 256)  |   |         |          |
| 5  |       | + It_SendRAB_SetupCS_OrPS  |   |         |          |
| 6  |       | AM ? RLC_AM_DATA_CNF   | car_AM_DataMuiCnf<br>(tsc_CellDedicated,<br>tsc_RB2, tsc_Mui) |         |          |
| 7  |       | +ts_SS_2DCH_Modify(     p_CellId,     c_DCH_144_148_UL_InfoRLC_AM(     tcv_ActTime),     c_DCH_144_148_DL_InfoRLC_AM(     tcv_ActTime),     c_TrChInfoUL_144_148_RLC_AM,     c_TrChInfoDL_144_148_RLC_AM,     c_TrChInfoDL_144_148_RLC_AM,  c_TrLogMappingUL_4DCCH_1DTCH_     RLC(     tsc_RB_AM_7_RLC     ),  c_TrLogMappingDL_4DCCH_1DTCH_     RLC(     tsc_RB_AM_7_RLC     ),  tcv_ActTime,     cb_DL_DPCH_8K_RLC_7BitLI (     c_DL_CommonInformationRB_SetUp (     tsc_DL_DPCH1_SFP_RLC_7BitLI),     tcv_TmpCellInfo.dl_DPCH_2ndScrCode     ),     cb_UL_DPCH_Info (     tsc_UL_DPCH_Info (     tsc_UL_DPCH_Info ( |   |         |          |

|    | Test Step Dynamic Behaviour |  |  |         |          |  |  |
|----|-----------------------------|--|--|---------|----------|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref  | Verdict | Comments |  |  |
|    |                             | cv_TmpCellInfo.uL_ScramblingCode ) )                                 |  |         |          |  |  |
| 8  |                             | +ts_SS_RB_TM_Cfg_RLC( 144,<br>tsc_RB_AM_7_RLC)                       |  |         |          |  |  |
| 9  | TSP                         | + ts_RRC_ReceiveRB_SetupCmpl ( p_CellId , cell_RLC_DCH_AM_RAB_7Lis ) |  |         |          |  |  |
| 10 |                             | (tcv_RLC_IgnoreStatus := FALSE)                                      |  |         |          |  |  |
| 11 |                             | + ts_SetCellCfg ( p_CellId, cell_RLC_DCH_AM_RAB_7Lis )               |  |         |          |  |  |
|    |                             | It_SendRAB_SetupCS_OrPS  |  |         |          |  |  |
| 12 |                             | [ tcv_CN_Domain = cs_domain ]  |  |         |          |  |  |
| 13 |                             | AM ! RLC_AM_DATA_REQ(tcv_RLC_IgnoreStatus :=                         | cas_RB_SetUpAM_WithCnf<br>(  |         |          |  |  |
|    |                             | TRUE)  | tsc_CellDedicated,<br>tsc_RB2,<br>tsc_Mui,   |         |          |  |  |
|    |                             |  | cs_RRC_RB_SetUp(   |         |          |  |  |
|    |                             |  | tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti,  |         |          |  |  |
|    |                             |  | tcv_ActTime, cell_DCH, OMIT, c_RAB_InfoListRLC( p_RAB_Id, p_RLC_Info, cs_domain, tsc_RB10 ),   |         |          |  |  |
|    |                             |  | c_UL_CommTrChInfoRLC_<br>8K,   |         |          |  |  |
|    |                             |  | c_UL_AddReconfTransChIn foList7_RLC_AM,  |         |          |  |  |
|    |                             |  | c_DL_CommonTransChInfo<br>SameAsUL,  |         |          |  |  |
|    |                             |  | c_DL_AddReconfTransChIn foListRLC, c_DL_InformationPerRL (tcv_TmpCellInfo.priScrmCo de, tsc_DL_DPCH1_ChC_RLC _7_BitLI, tcv_TmpCellInfo.dl_DPCH_2ndScrCode ), |         |          |  |  |
|    |                             |  | c_DL_CommonInformation RB_SetUp ( tsc_DL_DPCH1_SFP_RLC _7BitLI), cb_UL_DPCH_Info ( tsc_UL_DPDCH_SF_RLC _7BitLI, pl1, tcv_TmpCellInfo.uL_Scrambl              |         |          |  |  |

|      | Test Step Dynamic Behaviour |                       |  |         |          |  |  |
|------|-----------------------------|-----------------------|--|---------|----------|--|--|
| Nr   | Label                       | Behaviour Description | Constraints Ref  | Verdict | Comments |  |  |
|      | ı                           |                       | ingCode ), OMIT ) )  cas_RB_SetUpAM_WithCnf ( tsc_CellDedicated, tsc_RB2, tsc_Mui, cs_RRC_RB_SetUp()  tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti,  tcv_ActTime, cell_DCH, OMIT, c_RAB_InfoListRLC( p_RAB_Id, p_RLC_Info, ps_domain, tsc_RB20 ),  c_UL_CommTrChInfoRLC_ 8K,  c_UL_AddReconfTransChInfoList7_RLC_AM,  c_DL_CommonTransChInfoSameAsUL,  c_DL_AddReconfTransChInfoSameAsUL,  c_DL_LoftCommonTransChInfoSameAsUL,  c_DL_CommonTransChInfoSameAsUL,  c_DL_CommonInformation | Verdict | Comments |  |  |
|      |                             |                       | tcv_TmpCellInfo.dl_DPCH_<br>2ndScrCode ),  |         |          |  |  |
| Deta | iled Com                    | nments :              | OMIT   |         |          |  |  |

Test Step Name : ts\_RRC\_SetUpRAB\_UM\_15\_RLC ( p\_CellId: INTEGER; p\_RAB\_Id : BITSTRING; p\_RLC\_Info :

RLC\_Info)

Group : BasicM\_RRC\_Steps/RRC\_RAB\_Steps/

Objective :

Default : RRC\_Def1

Comments : This test step performs an RB setup procedure to configure RB10 in the UE as a UM DTCH entity

that should use 15 bit length indicators. Reference 3G TS 34.108 clause 6.11.2.

The corresponding entity in the SS is configured as TM, but with an identical transport block size. The AM header information is specified in the TTCN for DL, and can be inspected by the TTCN for UL.

**Parameters** 

p\_CellId: The cell id to use for signalling, and configuration of the RB for testing.

p\_RAB\_Id: The RAB Id to be used within the RB SETUP message.

p\_RLC\_Info: The RLC configuration information to be used within the RB setup message for DTCH. This parameter is provided so that different configurations can be used to meet the requirements of

each specific test case.

Description

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |   |         |          |
| 2  |       | CPHY ! CPHY_Frame_Number_REQ   | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 3  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber)  | car_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 4  |       | ( tcv_ActTime := (256 + tcv_FrameNumber –<br>( tcv_FrameNumber MOD 8 + 8)) MOD 256,<br>tcv_TGCFN := (tcv_FrameNumber + (256 –<br>4)) MOD 256)  |   |         |          |
| 5  |       | + It_SendRAB_SetupCS_OrPS  |   |         |          |
| 6  |       | AM ? RLC_AM_DATA_CNF   | car_AM_DataMuiCnf<br>(tsc_CellDedicated,<br>tsc_RB2, tsc_Mui) |         |          |
| 7  |       | +ts_SS_2DCH_Modify(     p_CellId,     c_DCH_1344_148_UL_InfoRLC(     tcv_ActTime),     c_DCH_1344_148_DL_InfoRLC(     tcv_ActTime),     c_TrChInfoUL_1344_148_RLC,     c_TrChInfoDL_1344_148_RLC,  c_TrChInfoDL_1344_148_RLC,  c_TrLogMappingUL_4DCCH_1DTCH_ RLC(     tsc_RB_UM_15_RLC ),  c_TrLogMappingDL_4DCCH_1DTCH_ RLC(     tsc_RB_UM_15_RLC ),  c_TrLogMappingDL_4DCCH_1DTCH_ RLC(     tsc_RB_UM_15_RLC ),  tcv_ActTime,     cb_DL_DPCH_64K_PS (     c_DL_CommonInformationRB_SetUp (     tsc_DL_DPCH1_SFP_RLC),     tcv_TmpCellInfo.dl_DPCH_2ndScrCode ),     cb_UL_DPCH_Info (     tsc_UL_DPDCH_SF_RLC, pl1, tcv_Tm |   |         |          |

|          |       | Test Step Dynamic  | Behaviour  |         |          |
|----------|-------|--|--|---------|----------|
| Nr       | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|          |       | pCellInfo.uL_ScramblingCode ) )  |  |         |          |
| 8        |       | +ts_SS_RB_TM_Cfg_RLC( 1344,<br>tsc_RB_UM_15_RLC)                           |  |         |          |
| 9        | TSP   | + ts_RRC_ReceiveRB_SetupCmpl (<br>p_CellId ,<br>cell_RLC_DCH_UM_RAB_15Lis) |  |         |          |
| 10       |       | + ts_SetCellCfg(p_CellId, cell_RLC_DCH_UM_RAB_15Lis)                       |  |         |          |
|          |       | It_SendRAB_SetupCS_OrPS  |  |         |          |
| 11<br>12 |       | [tcv_CN_Domain = cs_domain ]   | one DR Sott InAM WithCaf   |         |          |
| 12       |       | AM ! RLC_AM_DATA_REQ   | cas_RB_SetUpAM_WithCnf (    tsc_CellDedicated,    tsc_RB2,    tsc_Mui,    cs_RRC_RB_SetUp(   |         |          |
|          |       |  | tcv_CellIndInfo.dl_Integrity CheckInfo,     tcv_RRC_Ti,     tcv_ActTime,     cell_DCH,     OMIT,     c_RAB_InfoListRLC(     p_RAB_Id,     p_RLC_Info,     cs_domain,     tsc_RB10     ),  c_UL_CommTrChInfoRLC,  c_UL_AddReconfTransChInfoList15_RLC,  c_DL_CommonTransChInfoSameAsUL,  c_DL_AddReconfTransChInfoListRLC,     c_DL_InformationPerRL (tcv_TmpCellInfo.priScrmCo |         |          |
|          |       |  | de, tsc_DL_DPCH1_ChC_RLC , tcv_TmpCellInfo.dl_DPCH_ 2ndScrCode ),  c_DL_CommonInformation RB_SetUp ( tsc_DL_DPCH1_SFP_RLC ), cb_UL_DPCH_Info ( tsc_UL_DPDCH_SF_RLC,  |         |          |
|          |       |  | pl1,<br>tcv_TmpCellInfo.uL_Scrambl<br>ingCode ),<br>OMIT   |         |          |

|                 | Test Step Dyn         | amic Behaviour   |         |          |
|-----------------|-----------------------|--|---------|----------|
| Nr Label        | Behaviour Description | Constraints Ref  | Verdict | Comments |
| Nr Label  13 14 |                       | Constraints Ref  )  cas_RB_SetUpAM_WithCnf ( tsc_CellDedicated, tsc_RB2, tsc_Mui, cs_RRC_RB_SetUp()  tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, tcv_ActTime, cell_DCH, OMIT, c_RAB_InfoListRLC( p_RAB_Id, p_RLC_Info, ps_domain, tsc_RB20 ),  c_UL_CommTrChInfoRLC,  c_UL_AddReconfTransChIn foList15_RLC,  c_DL_CommonTransChInfo SameAsUL,  c_DL_AddReconfTransChIn foListRLC, c_DL_InformationPerRL (tcv_TmpCellInfo.priScrmCo de, tsc_DL_DPCH1_ChC_RLC , tcv_TmpCellInfo.dl_DPCH_ 2ndScrCode ),  c_DL_CommonInformation RB_SetUp ( tsc_DL_DPCH1_SFP_RLC | Verdict | Comments |
|                 |                       | RB_SetUp (   |         |          |
| Detailed Com    |                       | )  |         |          |

Test Step Name : ts\_RRC\_SetUpRAB\_UM\_7\_RLC ( p\_CellId: INTEGER; p\_RAB\_Id : BITSTRING; p\_RLC\_Info :

RLC\_Info)

Group : BasicM\_RRC\_Steps/RRC\_RAB\_Steps/

Objective :

Default : RRC\_Def1

Comments : This test step performs an RB setup procedure to configure RB10 in the UE as a UM DTCH entity

that should use 7 bit length indicators. Reference 3G TS 34.108 clause 6.11.1.

The corresponding entity in the SS is configured as TM, but with an identical transport block size. The UM header information is specified in the TTCN for DL, and can be inspected by the TTCN for UL.

**Parameters** 

p\_CellId: The cell id to use for signalling, and configuration of the RB for testing.

p\_RAB\_Id: The RAB Id to be used within the RB SETUP message.

p\_RLC\_Info: The RLC configuration information to be used within the RB setup message for DTCH. This parameter is provided so that different configurations can be used to meet the requirements of

each specific test case.

Description

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |   |         |          |
| 2  |       | CPHY ! CPHY_Frame_Number_REQ   | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 3  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber)  | car_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1)                   |         |          |
| 4  |       | ( tcv_ActTime := (256 + tcv_FrameNumber –<br>( tcv_FrameNumber MOD 8 + 8)) MOD 256,<br>tcv_TGCFN := (tcv_FrameNumber + (256 –<br>4)) MOD 256)  |   |         |          |
| 5  |       | + It_SendRAB_SetupCS_OrPS  |   |         |          |
| 6  |       | AM ? RLC_AM_DATA_CNF   | car_AM_DataMuiCnf<br>(tsc_CellDedicated,<br>tsc_RB2, tsc_Mui) |         |          |
| 7  |       | +ts_SS_2DCH_Modify(     p_CellId,     c_DCH_336_148_UL_InfoRLC_UM(     tcv_ActTime),     c_DCH_336_148_DL_InfoRLC_UM(     tcv_ActTime),     c_TrChInfoUL_336_148_RLC_UM,     c_TrChInfoDL_336_148_RLC_UM,     c_TrChInfoDL_336_148_RLC_UM,  c_TrLogMappingUL_4DCCH_1DTCH_RLC(     tsc_RB_UM_7_RLC     ),  c_TrLogMappingDL_4DCCH_1DTCH_RLC(     tsc_RB_UM_7_RLC     ),  tcv_ActTime,     cb_DL_DPCH_8K_RLC_7BitLI (     c_DL_CommonInformationRB_SetUp (     tsc_DL_DPCH1_SFP_RLC_7BitLI),     tcv_TmpCellInfo.dl_DPCH_2ndScrCode     ),     cb_UL_DPCH_Info (     tsc_UL_DPCH_Info (     tsc_UL_DPCH_Info ( |   |         |          |

|    |       | Test Step Dynamic   | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
| 8  |       | cv_TmpCellInfo.uL_ScramblingCode) ) +ts_SS_RB_TM_Cfg_RLC( 336,      |  |         |          |
|    | TOD   | tsc_RB_UM_7_RLC)  |  |         |          |
| 9  | TSP   | + ts_RRC_ReceiveRB_SetupCmpl ( p_CellId , cell_RLC_DCH_UM_RAB_7Lis) |  |         |          |
| 10 |       | + ts_SetCellCfg(p_CellId, cell_RLC_DCH_UM_RAB_7Lis)                 |  |         |          |
|    |       | It_SendRAB_SetupCS_OrPS   |  |         |          |
| 11 |       | [ tcv_CN_Domain = cs_domain ]                                       |  |         |          |
| 12 |       | AM ! RLC_AM_DATA_REQ  | cas_RB_SetUpAM_WithCnf<br>(<br>tsc_CellDedicated,<br>tsc_RB2,<br>tsc_Mui,<br>cs_RRC_RB_SetUp(  |         |          |
|    |       |   | tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, tcv_ActTime, cell_DCH, OMIT, c_RAB_InfoListRLC( p_RAB_Id, p_RLC_Info, cs_domain, tsc_RB10 ), c_UL_CommTrChInfoRLC_ |         |          |
|    |       |   | 8K, c_UL_AddReconfTransChIn foList7_RLC_UM,  |         |          |
|    |       |   | c_DL_CommonTransChInfo<br>SameAsUL,  |         |          |
|    |       |   | c_DL_AddReconfTransChIn foListRLC,   |         |          |
|    |       |   | c_DL_CommonInformation RB_SetUp ( tsc_DL_DPCH1_SFP_RLC _7BitLI), cb_UL_DPCH_Info ( tsc_UL_DPDCH_SF_RLC_ 7BitLI, pl1, tcv_TmpCellInfo.uL_Scrambl ingCode ), OMIT        |         |          |

|      |          | Test Step Dyn               | amic Behaviour                                      |         |          |
|------|----------|-----------------------------|---|---------|----------|
| Nr   | Label    | Behaviour Description       | Constraints Ref                                     | Verdict | Comments |
|      |          |                             | )   |         |          |
|      |          |                             | )   |         |          |
| 13   |          | [tcv_CN_Domain = ps_domain] |   |         |          |
| 14   |          | AM!RLC_AM_DATA_REQ          | cas_RB_SetUpAM_WithCnf                              |         |          |
|      |          |                             | tsc_CellDedicated,                                  |         |          |
|      |          |                             | tsc_RB2,  |         |          |
|      |          |                             | tsc_Mui,<br>cs_RRC_RB_SetUp(                        |         |          |
|      |          |                             | cs_kkc_kb_setop(                                    |         |          |
|      |          |                             | tcv_CellIndInfo.dl_Integrity                        |         |          |
|      |          |                             | CheckInfo,  |         |          |
|      |          |                             | tcv_RRC_Ti,<br>tcv_ActTime,                         |         |          |
|      |          |                             | cell_DCH,   |         |          |
|      |          |                             | OMIT,   |         |          |
|      |          |                             | c_RAB_InfoListRLC(<br>p_RAB_Id,                     |         |          |
|      |          |                             | p_RAB_id,<br>p_RLC_Info,                            |         |          |
|      |          |                             | ps_domain,  |         |          |
|      |          |                             | tsc_RB20  |         |          |
|      |          |                             | ),  |         |          |
|      |          |                             | c_UL_CommTrChInfoRLC_                               |         |          |
|      |          |                             | 8K,   |         |          |
|      |          |                             | c_UL_AddReconfTransChIn                             |         |          |
|      |          |                             | foList7_RLC_UM,                                     |         |          |
|      |          |                             | c_DL_CommonTransChInfo                              |         |          |
|      |          |                             | SameAsUL,   |         |          |
|      |          |                             | c_DL_AddReconfTransChIn                             |         |          |
|      |          |                             | foListRLC,  |         |          |
|      |          |                             | c_DL_InformationPerRL<br>(tcv_TmpCellInfo.priScrmCo |         |          |
|      |          |                             | de,   |         |          |
|      |          |                             | tsc_DL_DPCH1_ChC_RLC                                |         |          |
|      |          |                             | _7_BitLI,<br>tcv_TmpCellInfo.dl_DPCH_               |         |          |
|      |          |                             | 2ndScrCode ),                                       |         |          |
|      |          |                             | c_DL_CommonInformation                              |         |          |
|      |          |                             | RB_SetUp (  |         |          |
|      |          |                             | tsc_DL_DPCH1_SFP_RLC                                |         |          |
|      |          |                             | _7BitLI),<br>cb_UL_DPCH_Info (                      |         |          |
|      |          |                             | tsc_UL_DPDCH_SF_RLC_                                |         |          |
|      |          |                             | 7BitLI, pl1,  |         |          |
|      |          |                             | tcv_TmpCellInfo.uL_Scrambl                          |         |          |
|      |          |                             | ingCode ), OMIT                                     |         |          |
|      |          |                             | )   |         |          |
|      |          |                             | )   |         |          |
| Deta | iled Com | nments :                    |   |         |          |

Test Step Name : ts\_RRC\_ConnEst ( p\_CellId : INTEGER;

p\_CellId : INTEGER; p\_MO\_Reg : RegOr\_MO;

p\_EstCause : EstablishmentCause

**Group**: BasicM\_RRC\_Steps/

**Objective**: The generic Step to establish RRC Connection and bring UE to CELL\_FACH or CELL\_DCH state.

Default : RRC\_DefConnEst

Comments : In this Step , 5 Signalling Radio Bearers with 3.4kbps DL & UL is setup (RB#0, 1, 2, 3,4)

Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | +ts_SS_PrepareCellRRC_ConnEst ( p_CellId )   |  |         |          |
| 2  |       | + ts_SetTmpCellInfo ( p_CellId )   |  |         |          |
| 3  |       | +lt_RcvConnReq   |  |         |          |
| 4  |       | +lt_Send_ConnSetUp   |  |         |          |
| 5  |       | + ts_RRC_ReceiveConnSetupCmpl (<br>p_CellId )  |  |         |          |
|    |       | lt_RcvConnReq  |  |         |          |
| 6  |       | [ p_MO_Reg = est_Reg ]   |  |         |          |
| 7  |       | TM ? RLC_TR_DATA_IND ( tcv_InitialUE_Id := RLC_TR_DATA_IND.tM_message.uL_CCCH_M essage.message.rrcConnectionRequest.initialUE_ Identity)   | car_RRC_ConnReq<br>(p_CellId,<br>tsc_RB0,<br>cbr_108_RRC_ConnReq (<br>registration<br>)) |         |          |
| 8  |       | [(p_MO_Reg = est_MO)OR(p_MO_Reg = est_MT)]   |  |         |          |
| 9  |       | TM ? RLC_TR_DATA_IND ( tcv_InitialUE_Id := RLC_TR_DATA_IND.tM_message.uL_CCCH_M essage.message.rrcConnectionRequest.initialUE_ Identity)   | car_RRC_ConnReq (p_CellId, tsc_RB0, cbr_108_RRC_ConnReq (     p_EstCause ))              |         |          |
|    |       | lt_Send_ConnSetUp  | ,,   |         |          |
| 10 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn )OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1_NoCon n ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoCon n )OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_NoCon n ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_StandAlonePCH_2a_No Conn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_N   ccell_FACH_2a_Cnfg1_ |  |         |          |

|    |       | Test Step Dynamic   | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
|    |       | oConn) OR ( tcv_TmpCellInfo.cellConfig =cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_N oConn ) OR (tcv_TmpCellInfo.cellConfig =cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_No |  |         |          |
| 11 |       | Conn)] UM!RLC_UM_DATA_REQ   | cas_RRC_ConnSetup( p_CellId, tsc_RB0, cbs_108_RRC_ConnSetupF ACH (                           |         |          |
|    |       |   | de ,  tcv_TmpCellInfo.uRNTI ,  tcv_TmpCellInfo. cRNTI,  tcv_TmpCellInfo.uL_Scrambl ingCode ) |         |          |
| 12 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ]   |  |         |          |
| 13 |       | + ts_SetCellCfg (p_CellId, cell_FACH)   |  |         | 1.       |
| 14 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ]   |  |         |          |
| 15 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_BMC )   |  |         | 1.       |
| 16 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ]   |  |         |          |
| 17 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_2_PRACH )   |  |         | 1.       |
| 18 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ]  |  |         |          |
| 19 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_2_SCCPCH )  |  |         | 1.       |
| 20 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoC onn ]  |  |         |          |
| 21 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_2SCCPCH_StandAlonePCH )   |  |         |          |
| 22 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn ]   |  |         |          |
| 23 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_MAC_SRB )  |  |         |          |
| 24 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1_No Conn ]  |  |         |          |
| 25 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_3_SCCPCH_4_FACH_Cnfg1 )   |  |         |          |

|    |       | Test Step Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 26 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_No Conn ]   |   |         |          |
| 27 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_3_SCCPCH_4_FACH_Cnfg2 )  |   |         |          |
| 28 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_No Conn ]  |   |         |          |
| 29 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_3_FACH_CTCH )  |   |         |          |
| 30 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a_N oConn ]  |   |         |          |
| 31 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_2SCCPCH_StandAlonePCH_2a<br>)   |   |         |          |
| 32 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_NoConn ]   |   |         |          |
| 33 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1<br>)   |   |         |          |
| 34 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_NoConn ]   |   |         |          |
| 35 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2<br>)   |   |         |          |
| 36 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_NoConn ]  |   |         |          |
| 37 |       | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_3_FACH_2a_CTCH<br>)  |   |         |          |
| 38 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn ) ] |   |         |          |
| 39 |       | UM!RLC_UM_DATA_REQ   | cas_RRC_ConnSetup( p_CellId, tsc_RB0, cbs_108_RRC_ConnSetup DCH ( tcv_InitialUE_Id, tcv_RRC_Ti, |         |          |
|    |       |  | tcv_TmpCellInfo.priScrmCo de ,  |         |          |
|    |       |  | tcv_TmpCellInfo.uRNTI , tcv_TmpCellInfo.uL_Scrambl  |         |          |
|    |       |  | ingCode   |         |          |
| 40 |       | [ tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ]   | ,   |         |          |

### Continued from previous page

|    | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr | Label                       | Behaviour Description                                    | Constraints Ref | Verdict | Comments |  |  |  |  |
| 41 |                             | + ts_SetCellCfg ( p_CellId, cell_DCH_StandAloneSRB)      |                 |         |          |  |  |  |  |
| 42 |                             | [ tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn ] |                 |         |          |  |  |  |  |
| 43 |                             | + ts_SetCellCfg ( p_CellId, cell_DCH_MAC_SRB )           |                 |         |          |  |  |  |  |
| 44 | ERR                         | [TRUE]   |                 | ı       | 2.       |  |  |  |  |

Detailed Comments : 1. Update the cell configuration 2. A RRC connection has already been established.

Test Step Name : ts\_RRC\_ConnEst\_DCH\_MT\_PTMSI (

p\_CellId: INTEGER; p\_PagCause: PagingCause; p\_P\_tmsi:P\_TMSI\_GSM\_MAP; p\_EstCause: EstablishmentCause

Group : BasicM\_RRC\_Steps/

Objective : To bring the the UE into CELL\_DCH state with a MT call with Paging Type P\_TMSI

Default : RRC\_DefConnEst

Comments : Description :

| 1 | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments                                   |
|---|-------|---|---|---------|--|
| 1 |       | +ts_SS_PrepareCellRRC_ConnEst ( p_CellId )  |   |         |  |
| 2 |       | + ts_SetTmpCellInfo ( p_CellId )  |   |         |  |
| 3 |       | +ts_RRC_Delay(tsc_WaitBeforePaging)   |   |         | Give<br>delay<br>before<br>paging<br>type1 |
| 4 |       | +ts_CMAC_Pag1_Cfg( p_CellId)  |   |         |  |
| 5 |       | TM!RLC_TR_DATA_REQ  | cas_PagingType1 (     p_CellId,         tsc_RB_PCCH,  cs_RRC_PagingType1_PTM SI (         p_PagCause,         p_P_tmsi,         tcv_CN_Domain     ) )   |         |  |
| 6 |       | TM ? RLC_TR_DATA_IND (tcv_InitialUE_Id := RLC_TR_DATA_IND.tM_message.uL_CC CH_Message.message.rrcConnectionRequ est.initialUE_Identity) | car_RRC_ConnReq (p_CellId, tsc_RB0, cbr_108_RRC_ConnReq (   |         |  |
| 7 |       | UM!RLC_UM_DATA_REQ  | cas_RRC_ConnSetup( p_CellId, tsc_RB0, cbs_108_RRC_ConnSetup DCH ( tcv_InitialUE_Id, tcv_RRC_Ti,  tcv_TmpCellInfo.priScrmCo de , tcv_TmpCellInfo.uRNTI , |         |  |
|   |       |   | tcv_TmpCellInfo.uL_Scrambl ingCode )  |         |  |
| 8 |       | <pre>+ts_RRC_ReceiveConnSetupCmpl ( p_CellId )</pre>  |   |         |  |
| 9 |       | + ts_SetCellCfg(p_CellId, cell_DCH_StandAloneSRB)   |   |         | 1.   |

**Detailed Comments**: 1. Update the cell configuration

2. Download the START value to SS

 $\begin{tabular}{ll} \textbf{Test Step Name} &: ts\_RRC\_ConnEst\_DCH\_MT\_TMSI ( \\ & p\_CellId: INTEGER; \\ \end{tabular}$ 

p\_Cellid: INTEGER; p\_PagCause: PagingCause; p\_Tmsi:OCTETSTRING;

p\_EstCause: EstablishmentCause)

**Group**: BasicM\_RRC\_Steps/

Objective : To bring the the UE into CELL\_DCH state with a MT call with Paging Type TMSI

Default : RRC\_DefConnEst

Comments : Description :

| Nr   | Label    | Behaviour Description   | Constraints Ref   | Verdict | Comments                                   |
|------|----------|---|---|---------|--|
| 1    |          | +ts_SS_PrepareCellRRC_ConnEst ( p_CellId )  |   |         |  |
| 2    |          | + ts_SetTmpCellInfo ( p_CellId )  |   |         |  |
| 3    |          | +ts_RRC_Delay(tsc_WaitBeforePaging)   |   |         | Give<br>delay<br>before<br>paging<br>type1 |
| 4    |          | +ts_CMAC_Pag1_Cfg( p_CellId )   |   |         |  |
| 5    |          | TM!RLC_TR_DATA_REQ  | cas_PagingType1 (     p_CellId,     tsc_RB_PCCH,  |         |  |
|      |          |   | cs_RRC_PagingType1_TMSI<br>( p_PagCause,<br>o_ConvertTMSI(p_Tmsi),<br>tcv_CN_Domain ))          |         |  |
| 6    |          | TM ? RLC_TR_DATA_IND (tcv_InitialUE_Id := RLC_TR_DATA_IND.tM_message.uL_CC CH_Message.message.rrcConnectionRequ est.initialUE_Identity) | car_RRC_ConnReq<br>(p_CellId,<br>tsc_RB0,<br>cbr_108_RRC_ConnReq (<br>p_EstCause                |         |  |
| 7    |          | UM!RLC_UM_DATA_REQ  | cas_RRC_ConnSetup( p_CellId, tsc_RB0, cbs_108_RRC_ConnSetup DCH ( tcv_InitialUE_Id, tcv_RRC_Ti, |         |  |
|      |          |   | tcv_TmpCellInfo.priScrmCo<br>de ,<br>tcv_TmpCellInfo.uRNTI ,                                    |         |  |
|      |          |   | tcv_TmpCellInfo.uL_Scrambl ingCode  |         |  |
| 8    |          | +ts_RRC_ReceiveConnSetupCmpl(<br>p_CellId)  | ,   |         |  |
| 9    |          | + ts_SetCellCfg(p_CellId,<br>cell_DCH_StandAloneSRB)  |   |         | 1.   |
| Deta | iled Com | ments :   |   |         |  |

 $\begin{array}{ll} \textbf{Test Step Name} & : \ ts\_RRC\_ConnRel \ ( \\ & \ p\_CellId: \ INTEGER; \end{array}$ 

p\_RRC\_RelStatus : RRC\_Rel\_Status

Group : BasicM\_RRC\_Steps/

Objective : To bring the UE from state CELL\_DCH/ CELL\_FACH to idle state by releasing the RRC connection

Default : RRC\_Def1

Comments : Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |                 |         |          |
| 2  |       | + ts_RRC_Delay (<br>tsc_DelayBeforeRRC_ConnRel )  |                 |         |          |
| 3  |       | + It_Send_RRC_ConnectionRelease   |                 |         |          |
| 4  |       | + It_RestartCRLC_ForNextConnection  |                 |         |          |
| 5  |       | + ts_SS_ResetSecurityKey  |                 |         |          |
|    |       | It_RestartCRLC_ForNextConnection  |                 |         |          |
| 6  |       | [ tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB ]   |                 |         |          |
| 7  |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |
| 8  |       | + ts_SetCellCfg(p_CellId, cell_DCH_StandAloneSRB_NoConn)  |                 |         |          |
| 9  |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) ]   |                 |         |          |
| 10 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |
| 11 |       | + ts_SetCellCfg(p_CellId,<br>cell_FACH_NoConn)  |                 |         |          |
| 12 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ]  |                 |         |          |
| 13 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |
| 14 |       | + ts_SetCellCfg(p_CellId, cell_FACH_BMC_NoConn)   |                 |         |          |
| 15 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH]   |                 |         |          |
| 16 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |
| 17 |       | + ts_SetCellCfg(p_CellId,<br>cell_FACH_2_PRACH_NoConn)  |                 |         |          |
| 18 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ]   |                 |         |          |
| 19 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |
| 20 |       | + ts_SetCellCfg(p_CellId, cell_FACH_2_SCCPCH_NoConn)  |                 |         |          |
| 21 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS) ] |                 |         |          |
| 22 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         | [        |
| 23 |       | + ts_SetCellCfg(p_CellId,<br>cell_FACH_2SCCPCH_StandAlonePCH_NoC<br>onn)  |                 |         |          |
| 24 |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1 ]  |                 |         |          |
| 25 |       | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |

|    | Test Step Dynamic Behaviour |   |                 |         |          |  |  |
|----|-----------------------------|---|-----------------|---------|----------|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |
| 26 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_Cnfg1_No<br>Conn )   |                 |         |          |  |  |
| 27 |                             | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2 ]  |                 |         |          |  |  |
| 28 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 29 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_Cnfg2_No<br>Conn )   |                 |         |          |  |  |
| 30 |                             | [ tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH ]   |                 |         |          |  |  |
| 31 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 32 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_3_FACH_CTCH_No<br>Conn )  |                 |         |          |  |  |
| 33 |                             | [(tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a) OR(tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS_2a) ] |                 |         |          |  |  |
| 34 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 35 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_2SCCPCH_StandAlonePCH_2a_N<br>oConn )  |                 |         |          |  |  |
| 36 |                             | [(tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) ]  |                 |         |          |  |  |
| 37 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 38 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_<br>NoConn )  |                 |         |          |  |  |
| 39 |                             | [(tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2) ]  |                 |         |          |  |  |
| 40 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 41 |                             | + ts_SetCellCfg ( p_CellId,<br>cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_<br>NoConn )  |                 |         |          |  |  |
| 42 |                             | [(tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) ]   |                 |         |          |  |  |
| 43 |                             | + ts_CRLC_RelReconfSRB ( p_CellId )   |                 |         |          |  |  |
| 44 |                             | + ts_SetCellCfg(p_CellId,<br>cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_<br>NoConn)  |                 |         |          |  |  |

|          |       | Test Step Dynamic B  | Behaviour       |         |          |
|----------|-------|--|-----------------|---------|----------|
| Nr       | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 45       |       | [ (tcv_TmpCellInfo.cellConfig = cell_DCH_Speech ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_7Lis ) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB ) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS ) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2_PS_Call ) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS ) ] |                 |         |          |
| 46<br>47 |       | + ts_SS_ReconfigRAB_ToSRB ( p_CellId ) + ts_SetCellCfg ( p_CellId,   |                 |         |          |
| 48       | ERR1  | cell_DCH_StandAloneSRB_NoConn)  [(tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn)OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_StandAlonePCH_NoConn)]   |                 | I       | 1.       |
| 49       | ERR2  | [TRUE]   |                 | ı       |          |
|          |       | lt_Send_RRC_ConnectionRelease  |                 |         |          |
| 50       |       | [ p_RRC_RelStatus= cell_Dch ]  |                 |         |          |

|    |       | Test Step Dynamic  | Behaviour   |         |   |
|----|-------|--|---|---------|---|
| Nr | Label | Behaviour Description                                      | Constraints Ref   | Verdict | Comments  |
| 51 |       | ( tcv_N308 := 1, tcv_K := 1 )                              |   |         | Maximu m number of retransm issions of the RRC CONNE CTION RELEAS E COMPL ETE |
| 52 |       | UM ! RLC_UM_DATA_REQ                                       | cas_RRC_ConnReIDCCH ( tsc_CellDedicated, tsc_RB1,  cs_108_RRC_ConnReIDCC H(tcv_CellIndInfo.dl_Integri tyCheckInfo,  |         | message   |
| 53 | TSP1  | UM ? RLC_UM_DATA_IND                                       | tcv_RRC_Ti, tcv_N308)) car_RRC_ConnRelCmplUM ( tsc_CellDedicated, tsc_RB1, cbr_108_RRC_ConnRelCm pl ( tcv_RRC_Ti )  | (P)     |   |
| 54 |       | REPEAT It_RptRcvConnRel UNTIL [ tcv_K<br>= ( tcv_N308+1) ] |   |         | UE sends RRC Connect ion Release Complet e for N308 times                     |
| 55 |       | [ p_RRC_RelStatus = cell_Fach_Dcch ]                       |   |         |   |
| 56 |       | UM!RLC_UM_DATA_REQ   | cas_RRC_ConnRelDCCH ( tsc_CellDedicated, tsc_RB1,   |         |   |
| 57 | TSP2  | AM ? RLC_AM_DATA_IND                                       | cs_108_RRC_ConnRelDCC H ( tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, OMIT ) ) car_RRC_ConnRelCmpl ( tsc_CellDedicated, tsc_RB2,  cbr_108_RRC_ConnRelCm pl ( tcv_RRC_Ti ) | (P)     |   |
| 58 |       | + ts_RRC_Delay (<br>tsc_DelayAfterRRC_ConnRel)             |   |         |   |

|    |       | Test Step Dyn   | amic Behaviour  |         |                          |
|----|-------|---|---|---------|--------------------------|
| Nr | Label | Behaviour Description                                 | Constraints Ref   | Verdict | Comments                 |
| 59 |       | [ p_RRC_RelStatus = cell_Fach_Ccch ]                  |   |         |                          |
| 60 |       | UM!RLC_UM_DATA_REQ                                    | cas_RRC_ConnRelCCCH(<br>p_CellId,<br>tsc_RB0,             |         |                          |
|    |       |   | cs_108_RRC_ConnRelCCC<br>H (<br>c_U_RNTI,<br>tcv_RRC_Ti)) |         |                          |
| 61 |       | [ TRUE]   |   | I       | Program<br>ming<br>error |
|    |       | It_RptRcvConnRel                                      |   |         |                          |
| 62 |       | START t_Dly   |   |         |                          |
| 63 | TSF2  | ? TIMEOUT t_Dly                                       |   | (F)     |                          |
| 64 |       | ( tcv_K := tcv_N308 + 1 )                             |   |         | To stop<br>the loop      |
| 65 | TSP2  | UM?RLC_UM_DATA_IND<br>(tcv_K := tcv_K+1) CANCEL t_Dly | car_RRC_ConnRelCmplUM ( tsc_CellDedicated , tsc_RB1,      | (P)     | Retrans<br>mission       |
|    |       |   | cbr_108_RRC_ConnRelCm<br>pl ( tcv_RRC_Ti )                |         |                          |

 $\textbf{Test Step Name} \hspace{0.2cm} : \hspace{0.1cm} ts\_RRC\_RB\_RelRLC \hspace{0.1cm} (\hspace{0.1cm} p\_CellId : INTEGER \hspace{0.1cm})$ 

Group : BasicM\_RRC\_Steps/

**Objective**: To release Radio Bearer for RLC configurations.

Default : RRC\_Def1

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )                                       |  |         |          |
| 2  |       | +ts_CalculateActTime(p_CellId)   |  |         |          |
| 3  |       | + It_SendRAB_Rel   |  |         |          |
| 4  |       | + It_SS_RadioBearerRel   |  |         |          |
| 5  |       | + ts_RRC_ReceiveRB_RelCmpl (tsc_CellA,<br>tcv_TmpCellInfo.cellConfig)  |  |         |          |
| 6  |       | + ts_SetCellCfg ( p_CellId, cell_DCH_StandAloneSRB )                   |  |         |          |
|    |       | It_SS_RadioBearerRel   |  |         |          |
| 7  |       | [ tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ]             |  |         |          |
| 8  |       | + ts_SS_ReleaseDCH_ToDCH ( p_CellId , tsc_RB_AM_15_RLC , tcv_ActTime ) |  |         |          |
| 9  |       | [ tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_7Lis ]              |  |         |          |
| 10 |       | + ts_SS_ReleaseDCH_ToDCH ( p_CellId , tsc_RB_AM_7_RLC,tcv_ActTime )    |  |         |          |
| 11 |       | [ tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis]              |  |         |          |
| 12 |       | + ts_SS_ReleaseDCH_ToDCH ( p_CellId , tsc_RB_UM_15_RLC ,tcv_ActTime )  |  |         |          |
| 13 |       | [ tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis]               |  |         |          |
| 14 |       | + ts_SS_ReleaseDCH_ToDCH ( p_CellId , tsc_RB_UM_7_RLC,tcv_ActTime )    |  |         |          |
|    |       | lt_SendRAB_Rel   |  |         |          |
| 15 |       | [ tcv_CN_Domain = cs_domain ]  |  |         |          |
| 16 |       | AM ! RLC_AM_DATA_REQ   | cas_RB_Release ( tsc_CellDedicated, tsc_RB2, cs_RB_RelRLC ( tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, tcv_ActTime, tcv_TmpCellInfo.frequencyIn fo, tcv_TmpCellInfo.priScrmCo de, tcv_TmpCellInfo.uL_Scrambl ingCode, c_RB_InformationRel10 ) ) |         |          |
| 17 |       | [ tcv_CN_Domain = ps_domain ]  |  |         |          |

### Continued from previous page

|    | Test Step Dynamic Behaviour |                       |   |         |          |  |  |  |  |  |
|----|-----------------------------|-----------------------|---|---------|----------|--|--|--|--|--|
| Nr | Label                       | Behaviour Description | Constraints Ref   | Verdict | Comments |  |  |  |  |  |
| 18 |                             | AM ! RLC_AM_DATA_REQ  | cas_RB_Release ( tsc_CellDedicated, tsc_RB2, cs_RB_RelRLC ( tcv_CellIndInfo.dl_Integrity CheckInfo, tcv_RRC_Ti, tcv_ActTime, tcv_TmpCellInfo.frequencyIn fo, tcv_TmpCellInfo.priScrmCo de, tcv_TmpCellInfo.uL_Scrambl ingCode, c_RB_InformationRel20 )) |         |          |  |  |  |  |  |

 $\textbf{Test Step Name} \quad : \ \, ts\_RRC\_ReceiveConnSetupCmpI \ ( \ p\_CellId : INTEGER \, )$ 

**Group**: BasicM\_RRC\_Steps/

Objective : To receive RRC CONNECTION SETUP COMPLETE message and download SS security keys

according to the received information element.

Default : RRC\_DefConnEst,RRC\_Def1

Comments : Description :

| Nr  | Label        | Behaviour Description   | Constraints Ref   | Verdict    | Comments  |
|-----|--------------|---|---|------------|---|
| 1 2 |              | + ts_SetTmpCellInfo ( p_CellId )  [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) ]  |   |            |   |
| 3   |              | START t_WaitMS  |   |            |   |
| 5   | TSF1<br>TSP1 | ? TIMEOUT t_WaitMS  AM ? RLC_AM_DATA_IND  (tcv_StartList :=  RLC_AM_DATA_IND.aM_message.uL_DCC  H_Message.message.rrcConnectionSetupCo  mplete.startList,  tcv_CellIndInfo.cipheringAlgorithmCapability :=  RLC_AM_DATA_IND.aM_message.uL_DCC  H_Message.message.rrcConnectionSetupCo  mplete.ue_RadioAccessCapability.securityCap  ability.cipheringAlgorithmCap)  CANCEL t_WaitMS   | car_RRC_ConnSetupCmpl ( tsc_CellDedicated, tsc_RB2, cr_108_RRC_ConnSetupC mpl ( tcv_RRC_Ti, ? ) ) | (F)<br>(P) | UE<br>capabilit<br>y ie is<br>present<br>in a<br>DCH<br>comfigur<br>ation |
| 6 7 |              | + It_GetHFN  [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRBO_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRBO ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_SCCPCH_StandAlonePCH_NoConn ) OR |   |            |   |

|              |              | Test Step Dynamic  | Behaviour   |            |                                   |
|--------------|--------------|--|---|------------|-----------------------------------|
| Nr           | Label        | Behaviour Description  | Constraints Ref   | Verdict    | Comments                          |
| 8<br>9<br>10 | TSF2<br>TSP2 | (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1_NoC onn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoC onn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoC onn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_NoCo nn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoCo nn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)] START t_WaitMS ? TIMEOUT t_WaitMS AM ? RLC_AM_DATA_IND (tcv_StartList := RLC_AM_DATA_IND.aM_message.ul_DCC H_Message.message.rrcConnectionSetupCo mplete.startList) | car_RRC_ConnSetupCmpl ( tsc_CellDedicated, tsc_RB2, cr_108_RRC_ConnSetupC mpl ( tcv_RRC_Ti, ? ) ) | (F)<br>(P) | UE capabilit y ie is not present  |
| 11           |              | CANCEL t_WaitMS + It_GetHFN  |   |            | in a<br>FACH<br>configur<br>ation |
| 12           |              | [TRUE]   |   | 1          |                                   |
|              |              | lt_GetHFN  |   |            |                                   |
| 13           |              | ( tcv_Count := NUMBER_OF_ELEMENTS ( tcv_StartList ))   |   |            |                                   |
| 14           |              | [ tcv_Count = 1 ]  |   |            |                                   |
| 15           |              | + lt_FirstValue  |   |            |                                   |
| 16           |              | [ tcv_Count = 2 ]  |   |            |                                   |
| 17           |              | + lt_FirstValue  |   |            |                                   |
| 18           |              | + It_SecondValue   |   |            |                                   |
| 19           | ERR1         | [TRUE]   |   | F          |                                   |
|              |              | lt_FirstValue  |   |            |                                   |
| 20           |              | [ tcv_StartList.[0].cn_DomainIdentity = tsc_CS_Domain ]  |   |            |                                   |

|      | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |
|------|-----------------------------|---|-----------------|---------|----------|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |
| 21   |                             | ( tcv_CellIndInfo.start_CS := tcv_StartList.[0].start_Value ) |                 |         |          |  |  |  |
| 22   |                             | [ tcv_StartList.[0].cn_DomainIdentity = tsc_PS_Domain ]       |                 |         |          |  |  |  |
| 23   |                             | (tcv_CellIndInfo.start_PS := tcv_StartList.[0].start_Value )  |                 |         |          |  |  |  |
| 24   | ERR2                        | [TRUE]  |                 | F       |          |  |  |  |
|      |                             | It_SecondValue  |                 |         |          |  |  |  |
| 25   |                             | [ tcv_StartList.[1].cn_DomainIdentity = tsc_CS_Domain ]       |                 |         |          |  |  |  |
| 26   |                             | ( tcv_CellIndInfo.start_CS := tcv_StartList.[1].start_Value ) |                 |         |          |  |  |  |
| 27   |                             | [ tcv_StartList.[1].cn_DomainIdentity = tsc_PS_Domain ]       |                 |         |          |  |  |  |
| 28   |                             | ( tcv_CellIndInfo.start_PS := tcv_StartList.[1].start_Value ) |                 |         |          |  |  |  |
| 29   | ERR3                        | [TRUE]  |                 | F       |          |  |  |  |
| Deta | iled Com                    | iments: 1. Download the START value to SS                     | •               | •       |          |  |  |  |

| Test | Sten | Dvr | namic   | Be | haviour           |
|------|------|-----|---------|----|-------------------|
| 1031 | OLUB | ~y: | 1411110 | -  | 114 <b>V</b> 1041 |

Test Step Name : ts\_RRC\_ReceiveRB\_ReconfigCmpl ( p\_CellId : INTEGER )

Group : BasicM\_RRC\_Steps/

Objective : To receive RADIO BEARER RECONFIGURATION COMPLETE message and reconfigure SS

according to the received information element values.

Default : RRC\_Def1

Comments : Description :

| Nr | Label | Behaviour Description                   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )        |   |         |          |
| 2  |       | START t_WaitMS                          |   |         |          |
| 3  | TSF1  | ? TIMEOUT t_WaitMS                      |   | (F)     |          |
| 4  | TSP1  | AM ? RLC_AM_DATA_IND CANCEL<br>t_WaitMS | car_RB_ReconfCmpl ( tsc_CellDedicated, tsc_RB2, cr_108_RB_ReconfCmpl ( tcv_RRC_Ti, OMIT)) | (P)     |          |

 $\textbf{Test Step Name} \quad : \ ts\_RRC\_ReceiveRB\_RelCmpI \ ( \ p\_CellId : INTEGER; \ p\_RbType : RB\_ConfigType \ )$ 

Group : BasicM\_RRC\_Steps/

Objective : To receive RADIO BEARER RELEASE COMPLETE message and reconfigure SS according to the

received information element values.

Default : RRC\_Def1

Comments Description

| Nr | Label | Behaviour Description               | Constraints Ref   | Verdict | Comments |
|----|-------|-------------------------------------|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )    |   |         |          |
| 2  |       | START t_WaitMS                      |   |         |          |
| 3  | TSF1  | ?TIMEOUT t_WaitMS                   |   | (F)     |          |
| 4  | TSP1  | AM ?RLC_AM_DATA_IND CANCEL t_WaitMS | car_RB_RelCmpl ( tsc_CellDedicated, tsc_RB2, cr_108_RB_RelCmpl ( tcv_RRC_Ti, *, *)) | (P)     | 1.       |

**Detailed Comments**: 1. According to 25.331 March 2002, the field Count\_C\_ActivationTime may be present but from 25.331 june 2002 onward it shall be absent. For this reason the wildcar '\*' is usedi

Test Step Name : ts\_RRC\_ReceiveRB\_SetupCmpl ( p\_CellId : INTEGER; p\_RbType: RB\_ConfigType )

Group : BasicM\_RRC\_Steps/

Objective : To receive RADIO BEARER SETUP COMPLETE message and reconfigure SS according to the

received information element values.

Default : RRC\_Def1

Comments :
Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments                 |
|----|-------|---|-----------------|---------|--------------------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |                 |         |                          |
| 2  |       | START t_WaitMS  |                 |         |                          |
| 3  |       | [( p_RbType = cell_DCH_Speech) OR ( p_RbType = cell_DCH_64kCS_RAB_SRB) OR ( p_RbType = cell_DCH_57_6kCS_RAB_SRB ) OR ( p_RbType = cell_Two_DTCH) OR ( p_RbType = cell_Four_DTCH_CS) OR ( (p_RbType = cell_Two_DTCH_PS_CS) AND (tcv_CN_Domain = cs_domain)) OR ( (p_RbType = cell_Four_DTCH_PS_CS) AND (tcv_CN_Domain = cs_domain)) OR ( (p_RbType = cell_FOur_DTCH_PS_CS) OR ( (p_RbType = cell_DCH_DSCH_CS_PS) AND (tcv_CN_Domain = cs_domain)) OR |                 |         | TM RAB                   |
| 4  |       | [( tcv_CellIndInfo.cs_cipheringStarted = TRUE) AND( tcv_CellIndInfo.recentSecureDomain = cs_domain)]  |                 |         |                          |
| 5  |       | + It_CipheringStartedTM_RAB   |                 |         |                          |
| 6  |       | [(tcv_CellIndInfo.cs_cipheringStarted = TRUE) AND (( p_RbType = cell_DCH_Speech) OR (p_RbType = cell_DCH_64kCS_RAB_SRB) )]  |                 |         | For RAB<br>test<br>cases |
| 7  |       | + It_CipheringStartedTM_RAB   |                 |         |                          |
| 8  |       | [ tcv_CellIndInfo.cs_cipheringStarted = FALSE ]   |                 |         |                          |
| 9  |       | + It_CipheringNotStartedTM_RAB  |                 |         |                          |
| 10 |       | [TRUE]  |                 |         | AM/UM<br>RAB             |
| 11 |       | [ (tcv_CellIndInfo.ps_cipheringStarted = TRUE) AND( tcv_CellIndInfo.recentSecureDomain = ps_domain) ]   |                 |         |                          |
| 12 |       | + It_CipheringStartedAM_RAB   |                 |         |                          |
| 13 |       | [TRUE]  |                 |         |                          |
| 14 |       | + It_CipheringNotStartedAM_RAB  |                 |         |                          |
|    |       | lt_CipheringStartedTM_RAB   |                 |         |                          |
| 15 |       | + ts_CMAC_DownloadSecurityKey ( tcv_AuthCK,   |                 |         |                          |
| 16 |       | OMIT, OMIT, tcv_CN_Domain,<br>tcv_CellIndInfo.start_CS)<br>+ ts_CMAC_UL_DL_CipherCfg(   |                 |         |                          |
| 10 |       | tcv_CellIndInfo.dL_CipherMode, tcv_ActTime ,notInc)   |                 |         |                          |
| 17 | TSF1  | ? TIMEOUT t_WaitMS  |                 | (F)     |                          |

|    |       | Test Step Dynamic  | Behaviour  |         |  |
|----|-------|--|--|---------|--|
| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments   |
| 18 | TSP2  | AM ?RLC_AM_DATA_IND (tcv_CipherActTime := RLC_AM_DATA_IND.aM_message.uL_DCCH_ Message.message.radioBearerSetupComplete.c ount_C_ActivationTime, tcv_CellIndInfo.start_CS := RLC_AM_DATA_IND.aM_message.uL_DCCH_ Message.message.radioBearerSetupComplete.st art_Value ) CANCEL t_WaitMS                      | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RB_SetUpCmpl ( tcv_RRC_Ti, *, OMIT ) )      | (P)     | A new<br>start<br>value is<br>provided           |
| 19 |       | +ts_CMAC_DownloadSecurityKey(tcv_Auth CK, OMIT, OMIT, tcv_CN_Domain, tcv_CellIndInfo.start_CS)   |  |         |  |
| 20 |       | + ts_CMAC_UL_DL_CipherCfg (<br>tcv_CellIndInfo.dL_CipherMode,<br>tcv_CipherActTime, incPerCFN_Cycle)   |  |         |  |
|    |       | lt_CipheringStartedAM_RAB  |  |         |  |
| 21 | TSF3  | ? TIMEOUT t_WaitMS   |  | (F)     |  |
| 22 | TSP4  | AM ?RLC_AM_DATA_IND ( tcv_CellIndInfo.start_PS := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.start_V alue , tcv_CellIndInfo.uL_CipherMode := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me   | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RB_SetUpCmpl ( tcv_RRC_Ti, OMIT, *))        | (P)     | A new start value is provided  A RB UL cipher is |
| 23 |       | ssage.message.radioBearerSetupComplete.rb_UL_<br>CiphActivationTimeInfo )<br>CANCEL t_WaitMS<br>+ It_SS_CipheringAM_RAB_UL_DL (  |  |         | not<br>present                                   |
| 23 |       | tcv_PS_AuthCK)   |  |         |  |
|    |       | lt_CipheringNotStartedTM_RAB   |  |         |  |
| 24 | TSF5  | ? TIMEOUT t_WaitMS   |  | (F)     |  |
| 25 | TSP5  | AM ?RLC_AM_DATA_IND (tcv_CipherActTime := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.count_ C_ActivationTime, tcv_CellIndInfo.uL_CipherMode := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.rb_UL_ CiphActivationTimeInfo) CANCEL t_WaitMS | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cr_RRC_RB_SetUpCmplNo StartVal ( tcv_RRC_Ti, *,*) ) | (P)     | No start<br>value<br>No RB<br>UL<br>cipher       |
| 26 |       | + ts_CMAC_DownloadSecurityKey ( OMIT, OMIT, tcv_CN_Domain, tcv_CellIndInfo.start_CS)   |  |         |  |
| 27 |       | + ts_CMAC_UL_CipherCfg ( tcv_CellIndInfo.dL_CipherMode, tcv_CipherActTime,notInc )   |  |         |  |
| 28 | TSP6  | AM ?RLC_AM_DATA_IND (tcv_CipherActTime := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.count_ C_ActivationTime, tcv_CellIndInfo.start_CS := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.start_V alue ) CANCEL t_WaitMS                      | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RB_SetUpCmpl ( tcv_RRC_Ti, *, OMIT ) )      | (P)     | A new<br>start<br>value is<br>provided           |

|    |       | Test Step Dynamic  | Behaviour  |         |  |
|----|-------|--|--|---------|--|
| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments                                   |
| 29 |       | + ts_CMAC_DownloadSecurityKey ( OMIT, OMIT, tcv_CN_Domain, tcv_CellIndInfo.start_CS )  |  |         |  |
| 30 |       | + ts_CMAC_UL_CipherCfg ( tcv_CellIndInfo.dL_CipherMode, tcv_CipherActTime ,notInc )  |  |         |  |
|    |       | lt_CipheringNotStartedAM_RAB   |  |         |  |
| 31 | TSF5  | ? TIMEOUT t_WaitMS   |  | (F)     |  |
| 32 | TSP5  | AM ?RLC_AM_DATA_IND<br>CANCEL t_WaitMS   | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cr_RRC_RB_SetUpCmplNo StartVal ( tcv_RRC_Ti, OMIT,OMIT) ) | (P)     | No start<br>value<br>No RB<br>UL<br>cipher |
| 33 |       | + It_SS_CipheringAM_RAB_UL_DL(OMIT)  |  |         |  |
| 34 | TSP6  | AM ?RLC_AM_DATA_IND ( tcv_CellIndInfo.start_PS := RLC_AM_DATA_IND.aM_message.uL_DCCH_Me ssage.message.radioBearerSetupComplete.start_V alue ) CANCEL t_WaitMS  | car_RB_SetUpCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RB_SetUpCmpl ( tcv_RRC_Ti, OMIT, OMIT) )          | (P)     | A new<br>start<br>value is<br>provided     |
| 35 |       | + lt_SS_CipheringAM_RAB_UL_DL (OMIT)   |  |         |  |
|    |       | lt_SS_CipheringAM_RAB_UL_DL ( p_KC : KeyCiphering )  |  |         |  |
| 36 |       | [(p_RbType = cell_DCH_64kPS_RAB_SRB)OR   |  |         |  |
|    |       | (p_RbType = cell_FACH_PS) OR (p_RbType = cell_Two_DTCH_CS_PS) OR (p_RbType = cell_Four_DTCH_CS_PS) OR (p_RbType = cell_PDCP_AM_RAB) OR (p_RbType= cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR (p_RbType = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) OR (p_RbType = cell_FACH_3_SCCPCH_3_FACH_CTCH) OR (p_RbType = cell_FACH_3_SCCPCH_SCH_PS) OR (p_RbType = cell_DCH_DSCH_PS) OR (p_RbType = cell_DCH_DSCH_CS_PS) OR (p_RbType = cell_FACH_2SCCPCH_StandAlonePCH_PS)] |  |         |  |
| 37 |       | + It_CRLC_SecurityConfig (tcv_CellIndInfo.start_PS, p_KC)  |  |         |  |
| 38 |       | ( tcv_RLC_SeqNumDL_RB20 := 0 )   |  |         |  |
| 39 |       | + ts_CRLC_DL_CipherCfgRB ( tcv_CellIndInfo.dL_CipherMode , p_RbType ,notInc )  |  |         |  |
| 40 |       | + ts_CRLC_UL_CipherCfg_RAB<br>(ps_domain, cs_RB_ActTimeInfoList20 ( 0 )<br>,notInc )   |  |         |  |
| 41 |       | [ ( p_RbType = cell_DCH_2AM_PS ) OR ( p_RbType =cell_DCH_2_PS_Call )]  |  |         |  |
| 42 |       | + It_CRLC_SecurityConfig (tcv_CellIndInfo.start_PS, p_KC)  |  |         |  |
| 43 |       | ( tcv_RLC_SeqNumDL_RB20 := 0,<br>tcv_RLC_SeqNumDL_RB22 := 0)   |  |         |  |

|    |       | Test Step Dynamic B  | Behaviour       |         |                          |
|----|-------|--|-----------------|---------|--------------------------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments                 |
| 44 |       | + ts_CRLC_DL_CipherCfgRB ( tcv_CellIndInfo.dL_CipherMode , p_RbType ,notInc )                          |                 |         |                          |
| 45 |       | + ts_CRLC_UL_CipherCfg_RAB (ps_domain,cs_RB_ActTimeInfoList20_22 ( 0, 0),notInc)                       |                 |         |                          |
| 46 |       | [(p_RbType = cell_PDCP_AM_UM_RAB)]   |                 |         |                          |
| 47 |       | + It_CRLC_SecurityConfig<br>(tcv_CellIndInfo.start_PS, p_KC)   |                 |         |                          |
| 48 |       | ( tcv_RLC_SeqNumDL_RB20 := 0,<br>tcv_RLC_SeqNumDL_RB21 := 0)   |                 |         |                          |
| 49 |       | + ts_CRLC_DL_CipherCfgRB( tcv_CellIndInfo.dL_CipherMode, p_RbType ,notInc)                             |                 |         |                          |
| 50 |       | + ts_CRLC_UL_CipherCfg_RAB (ps_domain,cs_RB_ActTimeInfoList20_21 ( 0, 0),notInc)                       |                 |         |                          |
| 51 |       | [ ( p_RbType = cell_PDCP_UM_RAB ) ]  |                 |         |                          |
| 52 |       | + It_CRLC_SecurityConfig<br>(tcv_CellIndInfo.start_PS, p_KC)   |                 |         |                          |
| 53 |       | ( tcv_RLC_SeqNumDL_RB21 := 0 )   |                 |         |                          |
| 54 |       | + ts_CRLC_DL_CipherCfgRB( tcv_CellIndInfo.dL_CipherMode, p_RbType ,notInc)                             |                 |         |                          |
| 55 |       | + ts_CRLC_UL_CipherCfg_RAB (ps_domain, cs_RB_ActTimeInfoList21 ( 0 ) ,notInc )                         |                 |         |                          |
| 56 |       | [(p_RbType = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH)OR  |                 |         |                          |
|    |       | ( p_RbType= cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR ( p_RbType = cell_FACH_2SCCPCH_StandAlonePCH_PS_2a) |                 |         |                          |
|    |       | OR ( p_RbType = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)]   |                 |         |                          |
| 57 |       | + It_CRLC_SecurityConfig (tcv_CellIndInfo.start_PS, p_KC)  |                 |         |                          |
| 58 |       | (tcv_RLC_SeqNumDL_RB20 := 0,<br>tcv_RLC_SeqNumDL_RB24 := 0)  |                 |         |                          |
| 59 |       | + ts_CRLC_DL_CipherCfgRB( tcv_CellIndInfo.dL_CipherMode,p_RbType ,notInc)                              |                 |         |                          |
| 60 |       | + ts_CRLC_UL_CipherCfg_RAB<br>(ps_domain,cs_RB_ActTimeInfoList20_24 (<br>0, 0),notInc)                 |                 |         |                          |
| 61 |       | [TRUE]   |                 |         | for RLC<br>do<br>nothing |
|    |       | It_CRLC_SecurityConfig(p_Hfn_LT:<br>HyperFrameNumber;p_KC_LT: KeyCiphering)                            |                 |         |                          |

### Continued from previous page

| Test Step Dynamic Behaviour |                     |                                     |   |         |  |  |  |  |  |  |
|-----------------------------|---------------------|-------------------------------------|---|---------|--|--|--|--|--|--|
| Nr                          | Label               | Behaviour Description               | Constraints Ref   | Verdict | Comments   |  |  |  |  |  |
| 62                          |                     | CRLC ! CRLC_SecurityMode_Config_REQ | ca_CRLC_SecurityModeCfg Req ( tsc_CellDedicated , tcv_CellIndInfo.recentSecur eDomain, p_Hfn_LT , p_KC_LT, OMIT, OMIT ) |         | Downloa d security keys for RLC. CRLC is configur ed with cellId -1 ( tsc_Cell Dedicate d) |  |  |  |  |  |
| 63                          |                     | CRLC ? CRLC_SecurityMode_Config_CNF | ca_CRLC_SecurityModeCfg Cnf ( tsc_CellDedicated )   |         |  |  |  |  |  |  |
| Deta                        | Detailed Comments : |                                     |   |         |  |  |  |  |  |  |

Test Step Name : ts\_CRLC\_GetRLC\_SeqNumSecurity ( p\_CellId : INTEGER )

Group : BasicM\_Security\_Steps/

Objective : To assign the variables to the current RLC sequnce number of its corresponding SRB and RAB if

configured.

**Default**: SS\_Def\_Special

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
|----|-------|---|--|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |  |         |          |
| 2  |       | CRLC ! CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated, tsc_RB1      |         |          |
| 3  |       | CRLC ? CRLC_SequenceNumber_CNF ( tcv_RLC_SeqNumDL_RB1 :=     CRLC_SequenceNumber_CNF.count_C_LSB_     DL )  | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB1 )       |         |          |
| 4  |       | CRLC ! CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated, tsc_RB2<br>) |         |          |
| 5  |       | CRLC ? CRLC_SequenceNumber_CNF ( tcv_RLC_SeqNumDL_RB2 := CRLC_SequenceNumber_CNF.count_C_LS B_DL)   | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB2 )       |         |          |
| 6  |       | CRLC! CRLC_SequenceNumber_REQ   | cas_GetRLC_SeqNum (<br>tsc_CellDedicated, tsc_RB3<br>) |         |          |
| 7  |       | CRLC ? CRLC_SequenceNumber_CNF<br>( tcv_RLC_SeqNumDL_RB3 :=<br>CRLC_SequenceNumber_CNF.count_C<br>_LSB_DL )   | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB3 )       |         |          |
| 8  |       | CRLC ! CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated, tsc_RB4<br>) |         |          |
| 9  |       | CRLC ? CRLC_SequenceNumber_CNF (tcv_RLC_SeqNumDL_RB4 := CRLC_SequenceNumber_CNF.count _C_LSB_DL)  | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB4 )       |         |          |
| 10 |       | [( ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS ) ) OR ( (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlon ePCH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACHCnfg1 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACHCnfg1 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACHCnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACHCnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACHCnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACHSCCPCH_3_FACHSCCPCH_3_FACHCnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACHCnfg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH _ |  |         |          |

|    | Test Step Dynamic Behaviour |  |  |         |          |  |  |  |
|----|-----------------------------|--|--|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description  | Constraints Ref  | Verdict | Comments |  |  |  |
|    |                             | _CTCH )OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH _2a_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlon ePCH_2a)) AND( tcv_CellIndInfo. recentSecureDomain =ps_domain)] |  |         |          |  |  |  |
| 11 |                             | CRLC!<br>CRLC_SequenceNumber_REQ   | cas_GetRLC_SeqNum (<br>tsc_CellDedicated,<br>tsc_RB20 )      |         |          |  |  |  |
| 12 |                             | CRLC ? CRLC_SequenceNumber_CNF (tcv_RLC_SeqNumDL_RB20) :=  | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB20)             |         |          |  |  |  |
| 13 |                             | CRLC_SequenceNumber_CNF. count_C_LSB_DL) [( tcv_TmpCellInfo.cellConfig =   |  |         |          |  |  |  |
| 13 |                             | cell_PDCP_UM_RAB)AND( tcv_CellIndInfo. recentSecureDomain =ps_domain)]   |  |         |          |  |  |  |
| 14 |                             | CRLC! CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated,<br>tsc_RB21 )      |         |          |  |  |  |
| 15 |                             | CRLC ? CRLC_SequenceNumber_CNF ( tcv_RLC_SeqNumDL_RB21 := CRLC_SequenceNumber_CNF. count_C_LSB_DL)   | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB21)             |         |          |  |  |  |
| 16 |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) AND( tcv_CellIndInfo. recentSecureDomain =ps_domain) ]   |  |         |          |  |  |  |
| 17 |                             | CRLC! CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated,<br>tsc_RB20 )      |         |          |  |  |  |
| 18 |                             | CRLC ? CRLC_SequenceNumber_CNF (tcv_RLC_SeqNumDL_RB20) := CRLC_SequenceNumber_CNF.   | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB20 )            |         |          |  |  |  |
| 19 |                             | count_C_LSB_DL) CRLC! CRLC_SequenceNumber_RE   | cas_GetRLC_SeqNum ( tsc_CellDedicated,                       |         |          |  |  |  |
| 20 |                             | Q<br>CRLC ?<br>CRLC_SequenceNumber_C<br>NF   | tsc_RB22 ) car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB22 ) |         |          |  |  |  |
|    |                             | tcv_RLC_SeqNumDL_RB22 :=   |  |         |          |  |  |  |
| 21 |                             | CRLC_SequenceNumber_C<br>NF.count_C_LSB_DL)<br>[ ( tcv_TmpCellInfo.cellConfig =  |  |         |          |  |  |  |
| ۷1 |                             | cell_PDCP_AM_UM_RAB )AND( tcv_CellIndInfo. recentSecureDomain =ps_domain) ]  |  |         |          |  |  |  |

|      |          | Test Step Dynamic   | Behaviour   |         |          |
|------|----------|---|---|---------|----------|
| Nr   | Label    | Behaviour Description   | Constraints Ref   | Verdict | Comments |
| 22   |          | CRLC!<br>CRLC_SequenceNumber_REQ  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated,<br>tsc_RB20 ) |         |          |
| 23   |          | CRLC ? CRLC_SequenceNumber_CNF ( tcv_RLC_SeqNumDL_RB20 := CRLC_SequenceNumber_CNF. count_C_LSB_DL)  | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB20)        |         |          |
| 24   |          | CRLC!<br>CRLC_SequenceNumber_RE<br>Q  | cas_GetRLC_SeqNum (<br>tsc_CellDedicated,<br>tsc_RB21)  |         |          |
| 25   |          | CRLC ? CRLC_SequenceNumber_C NF ( tcv_RLC_SeqNumDL_RB21 := CRLC_SequenceNumber_C NF.count_C_LSB_DL) | car_GetRLC_SeqNum ( tsc_CellDedicated, tsc_RB21)        |         |          |
| 26   |          | [TRUE]  |   |         |          |
| Deta | iled Com | ments :   |   |         |          |

Test Step Name : ts\_InitSystemSpecificCap
Group : BasicM\_Security\_Steps/

Objective : If UE supports GSM, this step initialises tcv\_UE\_SystemSpecificCap based on PICS

Default : RRC\_Def1

Comments :

Description :

| 2  | Nr La | abel Behaviour Description                                | Constraints Ref | Verdict | Comments        |
|--|-------|---|-----------------|---------|-----------------|
| 2  | 1     | [ pc_UMTS_GSM]  |                 |         | IF GSM          |
| Control   Cont |       |   |                 |         |                 |
| 3  |       |   |                 |         | supporte<br>d   |
| 3  | 2     | (tcv_UE_SystemSpecificCap := 0)                           |                 |         |                 |
| 5       +It_A55         6       +It_A54         7       +It_A52         9       +It_A51         10       [TRUE]         11       (tcv_UE_SystemSpecificCap := 0)         12       [pc_MS_ClsmkA5_7='1'B]         13       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64)         14       [TRUE]         15       [pc_MS_ClsmkA5_6='1'B]         16       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+32)         17       [TRUE]         18       [pc_MS_ClsmkA5_5='1'B]         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [TRUE]         It_A54       [pc_MS_ClsmkA5_4='1'B]  | 3     |   |                 |         |                 |
| 6  | 4     |   |                 |         |                 |
| 7       +It_A53         8       +It_A52         9       +It_A51         10       [TRUE]         11       (tcv_UE_SystemSpecificCap := 0)         It_A57       [pc_MS_ClsmkA5_7='1'B]         12       [pc_MS_ClsmkA5_7='1'B]         13       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64)         14       [TRUE]         It_A56       [pc_MS_ClsmkA5_6='1'B]         15       [tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+32)         17       [TRUE]         It_A55       [pc_MS_ClsmkA5_5='1'B]         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [TRUE]         It_A54       [pc_MS_ClsmkA5_4='1'B]  | 5     | +lt_A55   |                 |         |                 |
| 8  | 6     | +lt_A54   |                 |         |                 |
| 9  | 7     | +lt_A53   |                 |         |                 |
| TRUE   | 8     | +lt_A52   |                 |         |                 |
| 11   | 9     | +lt_A51   |                 |         |                 |
| Suped  | 10    | [TRUE]  |                 |         | IF GSM          |
| 11   |       |   |                 |         | not<br>Support  |
| 12   |       |   |                 |         |                 |
| 12       [pc_MS_ClsmkA5_7='1'B]       A5_Suped         13       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64)       A5_Suped         14       [TRUE]   | 11    | (tcv_UE_SystemSpecificCap := 0)                           |                 |         |                 |
| 12       [pc_MS_ClsmkA5_7='1'B]       A5_Suped         13       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64)       A5_Suped         14       [TRUE]   |       | lt A57  |                 |         |                 |
| 13   | 12    |   |                 |         | A5_7            |
| 13       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64)         14       [TRUE]   |       |   |                 |         | Support         |
| 14       [TRUE]         It_A56         It_A56         15       [pc_MS_ClsmkA5_6='1'B]         A5_Sup ed         16       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+32)         17       [TRUE]         It_A55         It_A55         18       [pc_MS_ClsmkA5_5='1'B]         A5_Sup ed         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [TRUE]         It_A54         It_A54         21       [pc_MS_ClsmkA5_4='1'B]  |       |   |                 |         | ed              |
| 14       [TRUE]         It_A56       [pc_MS_ClsmkA5_6='1'B]         15       [pc_MS_ClsmkA5_6='1'B]         16       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+32)         17       [TRUE]         It_A55       [pc_MS_ClsmkA5_5='1'B]         18       [pc_MS_ClsmkA5_5='1'B]         45       Sup ed         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [TRUE]         It_A54       [pc_MS_ClsmkA5_4='1'B]         21       [pc_MS_ClsmkA5_4='1'B]  | 13    | (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+64) |                 |         |                 |
| It_A56   | 14    |   |                 |         |                 |
| 15   |       |   |                 |         |                 |
| Suped  | 15    |   |                 |         | Δ5.6            |
| 16       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+32)         17       [TRUE]   |       | [ pc_wc_cishiw.c_c= 1 b]                                  |                 |         | Support         |
| tcv_UE_SystemSpecificCap+32)  [TRUE]  It_A55  [pc_MS_ClsmkA5_5='1'B]  A5_Sup ed  (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)  [TRUE] It_A54  [pc_MS_ClsmkA5_4='1'B]  A5_Sup  |       |   |                 |         |                 |
| 17       [TRUE]         It_A55       [pc_MS_ClsmkA5_5='1'B]         18       [pc_MS_ClsmkA5_5='1'B]         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [TRUE]         It_A54       [pc_MS_ClsmkA5_4='1'B]         21       [pc_MS_ClsmkA5_4='1'B]   | 16    |   |                 |         |                 |
| 18       It_A55         [ pc_MS_ClsmkA5_5='1'B]         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)         20       [ TRUE] It_A54         21       [ pc_MS_ClsmkA5_4='1'B]    A5_Sup  | 47    |   |                 |         |                 |
| 18       [pc_MS_ClsmkA5_5='1'B]       A5_Sup ed         19       (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+16)       ETRUE]         20       [TRUE]       It_A54         21       [pc_MS_ClsmkA5_4='1'B]       A5_Sup  | 17    |   |                 |         |                 |
| 19   |       |   |                 |         | l               |
| 19   | 18    | [ pc_MS_ClsmkA5_5='1'B]                                   |                 |         | A5_5<br>Support |
| tcv_UE_SystemSpecificCap+16)  [ TRUE]    It_A54    pc_MS_ClsmkA5_4='1'B]  A5_ Sup  |       |   |                 |         |                 |
| tcv_UE_SystemSpecificCap+16)  [TRUE]  It_A54  [pc_MS_ClsmkA5_4='1'B]  A5_ Sup  | 19    | (tcv_UE_SystemSpecificCap :=                              |                 |         |                 |
| 21   It_A54   [pc_MS_ClsmkA5_4='1'B]   A5_Sup  |       | tcv_UE_SystemSpecificCap+16)                              |                 |         |                 |
| 21 [ pc_MS_ClsmkA5_4='1'B] A5_Sup  | 20    |   |                 |         |                 |
| Sup  |       | It_A54  |                 |         |                 |
|  | 21    | [ pc_MS_ClsmkA5_4='1'B]                                   |                 |         | A5_4            |
| , , , ,  |       |   |                 |         | Support<br>ed   |
| 22 (tcv_UE_SystemSpecificCap :=  | 22    | /tcv_UF_SystemSpecificCap :=                              |                 |         |                 |
| tcv_UE_SystemSpecificCap+8)  |       |   |                 |         |                 |
| 23 [TRUE]  | 23    | [TRUE]  |                 |         |                 |

|      |          | Test Step Dynam  | ic Behaviour    |         |                       |
|------|----------|--|-----------------|---------|-----------------------|
| Nr   | Label    | Behaviour Description                                    | Constraints Ref | Verdict | Comments              |
|      |          | lt_A53   |                 |         |                       |
| 24   |          | [ pc_MS_ClsmkA5_3='1'B]                                  |                 |         | A5_3<br>Support<br>ed |
| 25   |          | (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+4) |                 |         |                       |
| 26   |          | [TRUE]   |                 |         |                       |
|      |          | lt_A52   |                 |         |                       |
| 27   |          | [ pc_MS_ClsmkA5_2='1'B]                                  |                 |         | A5_2<br>Support<br>ed |
| 28   |          | (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+2) |                 |         |                       |
| 29   |          | [ TRUE]  |                 |         |                       |
|      |          | lt_A51   |                 |         |                       |
| 30   |          | [ pc_MS_ClsmkA5_1='0'B]                                  |                 |         | A5_1<br>Support<br>ed |
| 31   |          | (tcv_UE_SystemSpecificCap := tcv_UE_SystemSpecificCap+1) |                 |         |                       |
| 32   |          | [TRUE]   |                 |         |                       |
| Deta | iled Com | ments :  |                 |         |                       |

|  | Test Step Dynamic Behaviour |  |                                 |                 |          |  |  |  |  |  |
|--|-----------------------------|--|---------------------------------|-----------------|----------|--|--|--|--|--|
| Test Step Name : ts_CMAC_DownloadSecurityKey ( |                             |  |                                 |                 |          |  |  |  |  |  |
| Grou   | ıp                          | : BasicM_Security_Steps/   |                                 |                 |          |  |  |  |  |  |
| Obje   | ctive                       | : To download all security keys to CMAC.<br>Only the keys/Parameters to be downloaded will<br>depending on the PICS. | be passed as parameters, rest w | vill be omitted |          |  |  |  |  |  |
| Defa   | ult                         | : SS_Def   |                                 |                 |          |  |  |  |  |  |
| Comments                                       |                             | :  |                                 |                 |          |  |  |  |  |  |
| Description                                    |                             | :  |                                 |                 |          |  |  |  |  |  |
| Nr   | Label                       | Behaviour Description  | Constraints Ref                 | Verdict         | Comments |  |  |  |  |  |
| 1  |                             | CMAC LCMAC SecurityMode Config REO   | ca CMAC SecurityModeCf          |                 | Downloa  |  |  |  |  |  |

| Nr                  | Label | Behaviour Description               | Constraints Ref  | Verdict | Comments                                    |  |  |
|---------------------|-------|-------------------------------------|--|---------|---|--|--|
| 1                   |       | CMAC ! CMAC_SecurityMode_Config_REQ | ca_CMAC_SecurityModeCf<br>gReq ( tsc_CellDedicated ,<br>p_CN_Domain, p_HFN ,<br>p_KC, p_IK, p_GSM_ck ) |         | Downloa<br>d<br>security<br>keys for<br>MAC |  |  |
| 2                   |       | CMAC ? CMAC_SecurityMode_Config_CNF | ca_CMAC_SecurityModeCf<br>gCnf (tsc_CellDedicated)   |         |   |  |  |
| Detailed Comments : |       |                                     |  |         |   |  |  |

**Test Step Name**: ts\_CMAC\_DL\_CipherCfg ( p\_CipherMode: CipheringModeCommand; p\_ActTime: INTEGER; p\_IncrDcr : Increment\_Mode )

Group : BasicM\_Security\_Steps/

: Configure ciphering on the MAC layer for DL RBs. Objective

This step shal be called when required.

Default : SS\_Def

Comments Description

| Nr | Label | Behaviour Description              | Constraints Ref  | Verdict | Comments   |
|----|-------|------------------------------------|--|---------|--|
| 1  |       | CMAC ! CMAC_Ciphering_Activate_REQ | ca_CMAC_DL_CipherActRe<br>q ( tsc_CellDedicated,<br>tsc_DL_DPCH1,<br>p_CipherMode, p_ActTime,<br>p_IncrDcr ) |         | start,<br>restart<br>or stop<br>cipherin<br>g for TM<br>RB |
| 2  |       | CMAC ? CMAC_Ciphering_Activate_CNF | ca_CMAC_CipherActCnf(ts<br>c_CellDedicated,<br>tsc_DL_DPCH1)   |         |  |

**Detailed Comments:** 

#### **Test Step Dynamic Behaviour**

**Test Step Name**: ts\_CMAC\_UL\_CipherCfg ( p\_CipherMode: CipheringModeCommand; p\_ActTime: INTEGER; p\_IncrDcr : Increment\_Mode )

: BasicM\_Security\_Steps/ Group

Objective : Configure ciphering on the MAC layer for UL RBs.

Default : SS\_Def

Comments Description

| Nr   | Label               | Behaviour Description              | Constraints Ref   | Verdict | Comments                                      |  |  |  |  |
|------|---------------------|------------------------------------|---|---------|---|--|--|--|--|
| 1    |                     | CMAC ! CMAC_Ciphering_Activate_REQ | ca_CMAC_UL_CipherActRe q ( tsc_CellDedicated, tsc_UL_DPCH1, p_CipherMode, p_ActTime , p_IncrDcr ) |         | start,<br>restart<br>or stop<br>cipherin<br>g |  |  |  |  |
| 2    |                     | CMAC ? CMAC_Ciphering_Activate_CNF | ca_CMAC_CipherActCnf (<br>tsc_CellDedicated,<br>tsc_UL_DPCH1 )                                    |         |   |  |  |  |  |
| Deta | Detailed Comments : |                                    |   |         |   |  |  |  |  |

 $\begin{tabular}{lll} \textbf{Test Step Name} &: ts\_CRLC\_DL\_CipherCfgRB (& p\_CipherMode: CipheringModeCommand; p\_RbType: RB\_ConfigType: ;p\_IncMode: RLC\_IncMode) \end{tabular}$ 

Group : BasicM\_Security\_Steps/

Objective : Configure ciphering for RLC layer for configured AM/UM RAB's

Default : SS\_Def

Comments : CRLC is configured with cellId -1 ( tsc\_CellDedicated )

Description

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [ ( p_RbType = cell_DCH_64kPS_RAB_SRB ) OR                                  |                 |         |          |
|    |       | ( p_RbType = cell_FACH_PS ) OR  |                 |         |          |
|    |       | (p_RbType = cell_Two_DTCH_CS_PS)OR  |                 |         |          |
|    |       | ( p_RbType = cell_Four_DTCH_CS_PS ) OR<br>( p_RbType = cell_PDCP_AM_RAB )OR |                 |         |          |
|    |       | ( p_RbType = cell_PDCP_UM_RAB )OR   |                 |         |          |
|    |       | ( p_RbType=   |                 |         |          |
|    |       | cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR<br>( p_RbType =                         |                 |         |          |
|    |       | cell_FACH_3_SCCPCH_4_FACH_Cnfg2)OR  |                 |         |          |
|    |       | ( p_RbType =  |                 |         |          |
|    |       | cell_FACH_3_SCCPCH_3_FACH_CTCH) OR  |                 |         |          |
|    |       | (p_RbType = cell_DCH_DSCH_PS) OR<br>(p_RbType = cell_DCH_DSCH_CS_PS) OR     |                 |         |          |
|    |       | ( p_RbType =  |                 |         |          |
|    |       | cell_FACH_2SCCPCH_StandAlonePCH) OR   |                 |         |          |
|    |       | ( p_RbType = cell_FACH_2SCCPCH_StandAlonePCH_PS)]                           |                 |         |          |
| 2  |       | + It_RLC_Activate ( tsc_RB20,   |                 |         |          |
|    |       | tcv_RLC_SeqNumDL_RB20 )   |                 |         |          |
| 3  |       | [ ( p_RbType = cell_PDCP_UM_RAB) ]  |                 |         |          |
| 4  |       | + It_RLC_Activate ( tsc_RB21, tcv_RLC_SeqNumDL_RB21 )                       |                 |         |          |
| 5  |       | [(p_RbType = cell_PDCP_AM_UM_RAB)]  |                 |         |          |
| 6  |       | + It_RLC_Activate ( tsc_RB20, tcv_RLC_SeqNumDL_RB20 )                       |                 |         |          |
| 7  |       | + It_RLC_Activate(tsc_RB21,<br>tcv_RLC_SeqNumDL_RB21)                       |                 |         |          |
| 8  |       | [ ( p_RbType = cell_DCH_2AM_PS) OR ( p_RbType = cell_DCH_2_PS_Call) ]       |                 |         |          |
| 9  |       | + It_RLC_Activate(tsc_RB20,<br>tcv_RLC_SeqNumDL_RB20)                       |                 |         |          |
| 10 |       | + It_RLC_Activate(tsc_RB22,<br>tcv_RLC_SeqNumDL_RB22)                       |                 |         |          |
| 11 |       | [ ( p_RbType = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH ) OR                       |                 |         |          |
|    |       | ( p_RbType=<br>cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR                       |                 |         |          |
|    |       | (p_RbType =   |                 |         |          |
|    |       | cell_FACH_2SCCPCH_StandAlonePCH_PS_2a)                                      |                 |         |          |
|    |       | OR<br>( p_RbType =  |                 |         |          |
|    |       | cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)]  |                 |         |          |
| 12 |       | + It_RLC_Activate ( tsc_RB20, tcv_RLC_SeqNumDL_RB20 )                       |                 |         |          |
| 13 |       | + It_RLC_Activate(tsc_RB24,<br>tcv_RLC_SeqNumDL_RB24)                       |                 |         |          |
| 14 |       | [TRUE]  |                 |         |          |

|      | Test Step Dynamic Behaviour |  |   |         |   |  |  |  |  |
|------|-----------------------------|--|---|---------|---|--|--|--|--|
| Nr   | Label                       | Behaviour Description  | Constraints Ref   | Verdict | Comments  |  |  |  |  |
|      |                             | It_RLC_Activate ( p_rbld : INTEGER ; p_SeqNum : RLC_SequenceNumber ) |   |         |   |  |  |  |  |
| 15   |                             | CRLC ! CRLC_Ciphering_Activate_REQ                                   | ca_CRLC_DL_CipherActRe q ( tsc_CellDedicated , ps_domain , p_rbld , p_CipherMode, p_SeqNum , p_IncMode) |         | configur e cipherin g for signaling radio bearers |  |  |  |  |
| 16   |                             | CRLC ? CRLC_Ciphering_Activate_CNF                                   | ca_CRLC_CipherActCnf(ts c_CellDedicated )   |         |   |  |  |  |  |
| Deta | Detailed Comments :         |  |   |         |   |  |  |  |  |

Test Step Name : ts\_CRLC\_DL\_CipherCfgSRB (p\_CipherMode: CipheringModeCommand;p\_IncMode :

RLC\_IncMode)

Group : BasicM\_Security\_Steps/

**Objective**: Configure ciphering for RLC layer for RB1, RB2, RB3 and RB4

Default : SS\_Def

Comments : CRLC is configured with cellId -1 ( tsc\_CellDedicated )

| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments  |
|----|-------|---|--|---------|---|
| 1  |       | + It_RLC_Activate ( tsc_RB1, tcv_RLC_SeqNumDL_RB1 )                 |  |         |   |
| 2  |       | + It_RLC_Activate ( tsc_RB2 , tcv_RLC_SeqNumDL_RB2+2 )              |  |         |   |
| 3  |       | + lt_RLC_Activate(tsc_RB3,<br>tcv_RLC_SeqNumDL_RB3)                 |  |         |   |
| 4  |       | + It_RLC_Activate(tsc_RB4,<br>tcv_RLC_SeqNumDL_RB4)                 |  |         |   |
|    |       | lt_RLC_Activate ( p_rb : INTEGER ; p_RLC_Seq : RLC_SequenceNumber ) |  |         |   |
| 5  |       | CRLC ! CRLC_Ciphering_Activate_REQ                                  | ca_CRLC_DL_CipherActRe q ( tsc_CellDedicated ,tcv_CellIndInfo. recentSecureDomain, p_rb, p_CipherMode, p_RLC_Seq,p_IncMode ) |         | configur e cipherin g for signaling radio bearers |
| 6  |       | CRLC ? CRLC_Ciphering_Activate_CNF                                  | ca_CRLC_CipherActCnf(ts<br>c_CellDedicated )   |         |   |

 $\textbf{Test Step Name} \quad : \ ts\_CRLC\_DL\_Integrity \ ( \quad p\_Integrity Protection Modeln fo: Integrity Protection Modeln fo: Integri$ 

Group : BasicM\_Security\_Steps/
Objective : To start the integrity protection

Default : SS\_Def

Comments : CRLC is configured with cellId -1 (tsc\_CellDedicated)

Description :

| Nr | Label | Behaviour Description              | Constraints Ref  | Verdict | Comments |
|----|-------|------------------------------------|--|---------|----------|
| 1  |       | CRLC ! CRLC_Integrity_Activate_REQ | ca_CRLC_DL_IntegrityActi vateReq ( tsc_CellDedicated , tcv_CellIndInfo. recentSecureDomain, p_IntegrityProtectionModel nfo ) |         |          |
| 2  |       | CRLC ?CRLC_Integrity_Activate_CNF  | ca_CRLC_IntegrityActivate Cnf ( tsc_CellDedicated )  |         |          |

**Detailed Comments:** 

### **Test Step Dynamic Behaviour**

 $\textbf{Test Step Name} \quad : \ ts\_CRLC\_UL\_CipherCfg \ ( \ p\_RB\_ActivationTimeInfoList : RB\_ActivationTimeInfoList : p\_IncMode : \ ( \ p\_RB\_ActivationTimeInfoList : p\_IncMode : \ p\_IncMode :$ 

RLC\_IncMode)

**Group**: BasicM\_Security\_Steps/

**Objective**: Configure ciphering for RLC layer

Default : SS\_Def

Comments : CRLC is configured with cellId -1 (tsc\_CellDedicated)

| Nr   | Label               | Behaviour Description              | Constraints Ref   | Verdict | Comments  |  |  |  |
|------|---------------------|------------------------------------|---|---------|---|--|--|--|
| 1    |                     | CRLC ! CRLC_Ciphering_Activate_REQ | ca_CRLC_UL_CipherActRe<br>q ( tsc_CellDedicated ,<br>tcv_CellIndInfo.<br>recentSecureDomain,<br>p_RB_ActivationTimeInfoLis<br>t ,p_IncMode) |         | configur e cipherin g for signaling radio bearers |  |  |  |
| 2    |                     | CRLC ? CRLC_Ciphering_Activate_CNF | ca_CRLC_CipherActCnf(ts c_CellDedicated )   |         |   |  |  |  |
| Deta | Detailed Comments : |                                    |   |         |   |  |  |  |

 $\textbf{Test Step Name} \quad : \ ts\_CRLC\_UL\_CipherCfg\_RAB \ ( \ p\_CN\_Domain : CN\_DomainIdentity; \ p\_RB\_ActivationTimeInfoList \ ) \\$ 

: RB\_ActivationTimeInfoList ;p\_IncMode : RLC\_IncMode)

Group : BasicM\_Security\_Steps/

Objective : Configure ciphering for RLC layer

Default : SS\_Def

Comments : CRLC is configured with cellId -1 ( tsc\_CellDedicated )

Description :

| Nr | Label | Behaviour Description              | Constraints Ref   | Verdict | Comments  |
|----|-------|------------------------------------|---|---------|---|
| 1  |       | CRLC ! CRLC_Ciphering_Activate_REQ | ca_CRLC_UL_CipherActRe q ( tsc_CellDedicated , p_CN_Domain, p_RB_ActivationTimeInfoLis t ,p_IncMode ) |         | configur e cipherin g for signaling radio bearers |
| 2  |       | CRLC ? CRLC_Ciphering_Activate_CNF | ca_CRLC_CipherActCnf(ts<br>c_CellDedicated )  |         |   |

**Detailed Comments:** 

## **Test Step Dynamic Behaviour**

Test Step Name : ts\_CRLC\_UL\_Integrity ( p\_IntegrityProtActivationInfo : IntegrityProtActivationInfo )

Group : BasicM\_Security\_Steps/
Objective : To start the integrity protection

Default : SS\_Def

**Comments** : CRLC is configured with cellId –1 (tsc\_CellDedicated)

| Nr L | Label | Behaviour Description              | Constraints Ref   | Verdict | Comments |
|------|-------|------------------------------------|---|---------|----------|
| 1    |       | CRLC ! CRLC_Integrity_Activate_REQ | ca_CRLC_UL_IntegrityActi vateReq ( tsc_CellDedicated , tcv_CellIndInfo. recentSecureDomain, c_RestRB_IntegrityProtActi vationInfoList(p_IntegrityPr otActivationInfo.rrc_Messag eSequenceNumberList.[0], p_IntegrityProtActivationInf o.rrc_MessageSequenceNum berList.[1], p_IntegrityProtActivationInf o.rrc_MessageSequenceNum berList.[3], p_IntegrityProtActivationInf o.rrc_MessageSequenceNum berList.[3], p_IntegrityProtActivationInf o.rrc_MessageSequenceNum berList.[4])) |         |          |
| 2    |       | CRLC ?CRLC_Integrity_Activate_CNF  | ca_CRLC_IntegrityActivate Cnf (tsc_CellDedicated)   |         |          |

 $\begin{array}{ll} \textbf{Test Step Name} & : \ \text{ts\_RRC\_Security (} \\ & \ \text{p\_CellId} : \ \text{INTEGER;} \\ \end{array}$ 

p\_CellId : INTEGER;
p\_KC : KeyCiphering;
p\_IK : IntegrityKey;

p\_IK: IntegrityKey; p\_GSM\_ck: GSM\_CipheringKey;

p\_NewKey : BOOLEAN;

p\_CN\_Domain : CN\_DomainIdentity )

Group : BasicM\_Security\_Steps/

Objective : Configure and Activate (or deactivate) ciphering for all concerned RBs

Default : RRC\_Def1

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments  |
|----|-------|--|-----------------|---------|---|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |   |
| 2  |       | + lt_RRC_InitVariables   |                 |         |   |
| 3  |       | + ts_SS_DownloadSecurityKey(p_CellId,<br>p_KC, p_IK, p_GSM_ck, p_CN_Domain)  |                 |         |   |
| 4  |       | + lt_ActivateSecurity_DL_SS  |                 |         | To Start<br>Integrity<br>on the<br>UL RB2                                       |
| 5  |       | +lt_RB2_UL_IntegrityActivate   |                 |         |   |
| 6  |       | + It_StartSecurity_UE  |                 |         |   |
| 7  |       | [( ( tcv_CellIndInfo.ps_cipheringStarted<br>= TRUE) AND ( tcv_CellIndInfo.<br>recentSecureDomain = ps_domain) ) OR<br>(( tcv_CellIndInfo.cs_cipheringStarted =<br>TRUE) AND( tcv_CellIndInfo.<br>recentSecureDomain = cs_domain))] |                 |         |   |
| 8  |       | + ts_CRLC_ResumeSecurity ( p_CellId<br>)   |                 |         |   |
| 9  |       | [TRUE]   |                 |         |   |
|    |       | lt_RB2_UL_IntegrityActivate  |                 |         |   |
| 10 |       | [ tcv_Int_ModifyFlag ]   |                 |         | If Start of Integrity Set DL RRC_M SN to 0, else skipt it.                      |
| 11 |       | +<br>ts_RB2_UL_IntegrityActivate(tcv_RRC_MSN_R<br>B2_UL)   |                 |         |   |
| 12 |       | [NOT tcv_Int_ModifyFlag ]  |                 |         | If Start<br>of<br>Integrity<br>Set DL<br>RRC_M<br>SN to 0,<br>else<br>skipt it. |
| 13 |       | + ts_RB2_UL_IntegrityActivate(0)   |                 |         |   |
|    |       | It_ActivateSecurity_DL_SS  |                 |         |   |
| 14 |       | + It_InitialiseRRC_MSN   |                 |         |   |

|    |       | Test Step Dynamic B   | Behaviour       |         |  |
|----|-------|---|-----------------|---------|--|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments   |
| 15 |       | + ts_CRLC_DL_Integrity( tcv_CellIndInfo.dL_Integrity)   |                 |         |  |
| 16 |       | [( ( tcv_CellIndInfo.ps_cipheringStarted = TRUE) AND ( tcv_CellIndInfo. recentSecureDomain =ps_domain) ) OR (( tcv_CellIndInfo.cs_cipheringStarted = TRUE) AND( tcv_CellIndInfo. recentSecureDomain =cs_domain))] |                 |         |  |
| 17 |       | + ts_CRLC_GetRLC_SeqNumSecurity ( p_CellId)   |                 |         |  |
| 18 |       | + lt_AssignRB_ActivationTimeInfoList  |                 |         |  |
| 19 |       | + ts_CRLC_SuspendSecurity ( p_CellId )  |                 |         | Suspend<br>SRBs 1,<br>3 and 4                              |
| 20 |       | + ts_CRLC_DL_CipherCfgSRB ( tcv_CellIndInfo.dL_CipherMode,notInc)   |                 |         | Configur e cipherin g for RLC (RBs 1, 2, 3 and 4)          |
| 21 |       | + ts_CRLC_DL_CipherCfgRB ( tcv_CellIndInfo.dL_CipherMode, tcv_TmpCellInfo.cellConfig,notInc)  |                 |         |  |
| 22 |       | + ts_CMAC_CipherCfg ( p_CellId<br>,TRUE ,<br>tcv_CellIndInfo.dL_CipherMode<br>,incPerCFN_Cycle)   |                 |         |  |
| 23 |       | [TRUE]  |                 |         | If no<br>New<br>Cipherin<br>g config                       |
|    |       | It_InitialiseRRC_MSN  |                 |         |  |
| 24 |       | [ NOT tcv_Int_ModifyFlag ]  |                 |         | If Start of Integrity Set DL RRC_M SN to 0, else skipt it. |
| 25 |       | + ts_SetDL_RRC_MessageSN ( p_CellId)  |                 |         | ""   |
| 26 |       | [ tcv_Int_ModifyFlag ]  |                 |         |  |
|    |       | lt_StartSecurity_UE   |                 |         |  |
| 27 |       | + It_SendSecurityModeCommand  |                 |         |  |
| 28 |       | [ px_CipheringOnOff ]   |                 |         | Cipherin<br>g and<br>Integrity                             |

|    |       | Test Step Dynamic   | Behaviour   |         |  |
|----|-------|---|---|---------|--|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments   |
| 29 | TSP1  | AM?RLC_AM_DATA_IND ( tcv_CellIndInfo.uL_Integrity := RLC_AM_DATA_IND.aM_message.uL_DCCH_ Message.message.securityModeComplete.ul_Int egProtActivationInfo, tcv_CellIndInfo.uL_CipherMode := RLC_AM_DATA_IND.aM_message.uL_DCCH_ Message.message.securityModeComplete.rb_U L_CiphActivationTimeInfo) | car_RRC_SecModeCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RRC_SecModeCm pl ( tcv_RRC_Ti,?) )      | (P)     | UL<br>cipherin<br>g<br>informati<br>on is<br>present |
| 30 |       | + ts_CRLC_UL_CipherCfg ( tcv_CellIndInfo.uL_CipherMode ,notInc )  |   |         |  |
| 31 |       | + ts_CRLC_UL_Integrity ( tcv_CellIndInfo.uL_Integrity)  |   |         |  |
| 32 | TSF1  | AM?RLC_AM_DATA_IND  | car_RRC_SecModeFail (<br>tsc_CellDedicated,<br>tsc_RB2,<br>cr_108_SecModeFail (<br>tcv_RRC_Ti,?)) | (F)     |  |
| 33 |       | [ NOT ( px_CipheringOnOff ) ]   |   |         | Integrity<br>only no<br>cipherin<br>g                |
| 34 | TSP2  | AM?RLC_AM_DATA_IND ( tcv_CellIndInfo.uL_Integrity := RLC_AM_DATA_IND.aM_message.uL_DCCH_ Message.message.securityModeComplete.ul_Int egProtActivationInfo )   | car_RRC_SecModeCmpl ( tsc_CellDedicated, tsc_RB2, cbr_108_RRC_SecModeCm pl ( tcv_RRC_Ti , OMIT) ) | (P)     | No UL<br>Cipherin<br>g<br>informati<br>on            |
| 35 |       | + ts_CRLC_UL_Integrity ( tcv_CellIndInfo.uL_Integrity)  |   |         |  |
| 36 | TSF2  | AM?RLC_AM_DATA_IND  | car_RRC_SecModeFail ( tsc_CellDedicated, tsc_RB2, cr_108_SecModeFail ( tcv_RRC_Ti,?))             | (F)     |  |
|    |       | lt_SendSecurityModeCommand  |   |         |  |
| 37 |       | [pc_UMTS_GSM]   |   |         | Branchin<br>g if<br>GSM<br>Support<br>ed             |
| 38 |       | [ px_CipheringOnOff ]   |   |         | Cipherin<br>g ON<br>and<br>integrity<br>ON           |

|    |       | Test Step Dynamic  | Behaviour   |         |  |
|----|-------|--|---|---------|--|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments   |
| 39 |       | [(( tcv_TmpCellInfo.cellConfig = cell_DCH_Speech) OR ( tcv_TmpCellInfo.cellConfig =cell_DCH_64kCS_RAB_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS) OR ( ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) AND (tcv_CellIndInfo. recentSecureDomain = cs_domain)) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) OR( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS)) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS)) AND ( tcv_CellIndInfo. recentSecureDomain = cs domain)] |   |         | Cipherin<br>g on TM<br>RAB<br>present,<br>hence<br>include<br>Cipherin<br>g<br>activatio<br>n time |
| 40 |       | AM!RLC_AM_DATA_REQ   | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd ( tcv_CellIndInfo.dl_Integrity CheckInfo,  cs_RRC_SecModeCmdCiph Int ( tcv_RRC_Ti, tcv_CellIndInfo.dL_CipherM ode, tcv_RB_ActivationTimeInfoL ist, tcv_CipherActTime, p_CN_Domain, tcv_CellIndInfo.dL_Integrity , tcv_CellIndInfo.cipheringAlg orithmCapability, cs_UE_SysSpecCap (INT_TO_BIT (tcv_UE_SystemSpecificCa p,7)) ) ) ) |         | Cipherin<br>g for<br>signallin<br>g RBs 1<br>to 4  |
| 41 |       | [TRUE]   |   |         |  |

|    |       | Test Step Dyn               | amic Behaviour  |         |   |
|----|-------|-----------------------------|---|---------|---|
| Nr | Label | Behaviour Description       | Constraints Ref   | Verdict | Comments  |
| 42 |       | AM!RLC_AM_DATA_REQ          | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd ( tcv_CellIndInfo.dl_Integrity CheckInfo,  |         | Cipherin<br>g for<br>signallin<br>g RBs 1<br>to 4 |
|    |       |                             | cs_RRC_SecModeCmdCiph<br>Int (<br>tcv_RRC_Ti,<br>tcv_CellIndInfo.dL_CipherM<br>ode,<br>tcv_RB_ActivationTimeInfoL<br>ist,<br>OMIT, p_CN_Domain,<br>tcv_CellIndInfo.dL_Integrity   |         |   |
|    |       |                             | tcv_CellIndInfo.cipheringAlg<br>orithmCapability,cs_UE_Sys<br>SpecCap (INT_TO_BIT<br>(tcv_UE_SystemSpecificCa<br>p,7))<br>)))   |         |   |
| 43 |       | [ NOT ( px_CipheringOnOff)] |   |         | Integrity<br>ON and<br>cipherin<br>g OFF          |
| 44 |       | AM!RLC_AM_DATA_REQ          | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd (  tcv_CellIndInfo.dl_Integrity CheckInfo, cs_RRC_SecModeCmdInt (  tcv_RRC_Ti, p_CN_Domain,  tcv_CellIndInfo.dL_Integrity , tcv_CellIndInfo.cipheringAlg orithmCapability, cs_UE_SysSpecCap (INT_TO_BIT (tcv_UE_SystemSpecificCa p,7)) ) ) ) |         |   |
| 45 |       | [NOT pc_UMTS_GSM]           |   |         | Branchin<br>g if<br>GSM<br>Not<br>Support<br>ed   |
| 46 |       | [ px_CipheringOnOff ]       |   |         | Cipherin<br>g ON<br>and<br>integrity<br>ON        |

|    |       | Test Step Dynamic   | Behaviour   |         |  |
|----|-------|---|---|---------|--|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments   |
| 47 |       | [(( tcv_TmpCellInfo.cellConfig = cell_DCH_Speech) OR ( tcv_TmpCellInfo.cellConfig =cell_DCH_64kCS_RAB_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS) OR ( ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) AND (tcv_CellIndInfo. recentSecureDomain = cs_domain)) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) OR( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS)) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS)) AND ( tcv_CellIndInfo. recentSecureDomain = cs_domain)] |   |         | Cipherin<br>g on TM<br>RAB<br>present,<br>hence<br>include<br>Cipherin<br>g<br>activatio<br>n time |
| 48 |       | AM!RLC_AM_DATA_REQ  | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd ( tcv_CellIndInfo.dl_Integrity CheckInfo,  cs_RRC_SecModeCmdCiph Int ( tcv_RRC_Ti, tcv_CellIndInfo.dL_CipherM ode, tcv_RB_ActivationTimeInfoL ist, tcv_CipherActTime, p_CN_Domain, tcv_CellIndInfo.dL_Integrity , tcv_CellIndInfo.cipheringAlg orithmCapability,OMIT ))) |         | Cipherin<br>g for<br>signallin<br>g RBs 1<br>to 4  |
| 49 |       | [TRUE]  |   |         |  |

|                |       | Test Step Dyn   | amic Behaviour   |         |  |
|----------------|-------|---|--|---------|--|
| Nr             | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments   |
| 50             |       | AM!RLC_AM_DATA_REQ  | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd ( tcv_CellIndInfo.dl_Integrity CheckInfo,   |         | Cipherin<br>g for<br>signallin<br>g RBs 1<br>to 4  |
|                |       |   | cs_RRC_SecModeCmdCiph<br>Int (<br>tcv_RRC_Ti,<br>tcv_CellIndInfo.dL_CipherM<br>ode,<br>tcv_RB_ActivationTimeInfoL<br>ist,<br>OMIT, p_CN_Domain,  |         |  |
|                |       |   | tcv_CellIndInfo.dL_Integrity , tcv_CellIndInfo.cipheringAlg orithmCapability,OMIT )))  |         |  |
| 51             |       | [ NOT ( px_CipheringOnOff ) ]   |  |         | Integrity<br>ON and<br>cipherin<br>g OFF           |
| 52             |       | AM!RLC_AM_DATA_REQ  | cas_RRC_SecModeCmd ( tsc_CellDedicated, tsc_RB2, cs_108_RRC_SecModeCmd (  tcv_CellIndInfo.dl_Integrity CheckInfo, cs_RRC_SecModeCmdInt (  tcv_RRC_Ti, p_CN_Domain,  tcv_CellIndInfo.dL_Integrity ,  tcv_CellIndInfo.cipheringAlg orithmCapability,OMIT ) ) |         |  |
| 53<br>54       |       | It_RRC_InitVariables + It_InitCipherMode + It_InitIntegrity                 | ) <sup>'</sup>   |         |  |
| 55<br>56<br>57 |       | + ts_InitSystemSpecificCap + ts_SaveCellInfo ( p_CellId ) [p_NewKey = TRUE] |  |         | Authenti<br>cation<br>was<br>done,<br>reset<br>HFN |
| 58             |       | (tcv_HFN := '00000000000000000000'B)  |  |         |  |

|    |       | Test Step Dynamic  | Behaviour       |         |                                |
|----|-------|--|-----------------|---------|--------------------------------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments                       |
| 59 |       | [ p_CN_Domain = cs_domain]   |                 |         |                                |
| 60 |       | ( tcv_CellIndInfo.start_CS := '00000000000000000000000000000000000   |                 |         |                                |
| 61 |       | [ p_CN_Domain = ps_domain]   |                 |         |                                |
| 62 |       | ( tcv_CellIndInfo.start_PS := '00000000000000000000000000000000000   |                 |         |                                |
| 63 |       | [p_NewKey = FALSE]   |                 |         |                                |
| 64 |       | [ p_CN_Domain = cs_domain]   |                 |         |                                |
| 65 |       | ( tcv_HFN := tcv_CellIndInfo.start_CS<br>)   |                 |         |                                |
| 66 |       | [ p_CN_Domain = ps_domain]   |                 |         |                                |
| 67 |       | ( tcv_HFN := tcv_CellIndInfo.start_PS<br>)   |                 |         |                                |
|    |       | It_InitCipherMode  |                 |         |                                |
| 68 |       | [ px_CipheringOnOff = TRUE ]   |                 |         |                                |
| 69 |       | [pc_UEA1_Supp]   |                 |         |                                |
| 70 |       | ( tcv_CellIndInfo.dL_CipherMode := cs_CipheringModeCmdOn ( uea1 ), tcv_CellIndInfo.cipheringAlgorithmCapability := '00000000000000011'B )  |                 |         | Swithch<br>On<br>cipherin<br>g |
| 71 |       | [ p_CN_Domain = cs_domain ]  |                 |         |                                |
| 72 |       | ( tcv_CellIndInfo.cs_cipheringStarted := TRUE)   |                 |         |                                |
| 73 |       | [p_CN_Domain = ps_domain ]   |                 |         |                                |
| 74 |       | ( tcv_CellIndInfo.ps_cipheringStarted := TRUE)   |                 |         |                                |
| 75 |       | [ NOT ( pc_UEA1_Supp ) ]   |                 |         |                                |
| 76 |       | ( tcv_CellIndInfo.dL_CipherMode := cs_CipheringModeCmdOn ( uea0 ), tcv_CellIndInfo.cipheringAlgorithmCapability := '000000000000000001'B ) |                 |         | Swithch<br>On<br>cipherin<br>g |
| 77 |       | [ p_CN_Domain = cs_domain ]  |                 |         |                                |
| 78 |       | ( tcv_CellIndInfo.cs_cipheringStarted := TRUE)   |                 |         |                                |
| 79 |       | [ p_CN_Domain = ps_domain ]  |                 |         |                                |
| 80 |       | ( tcv_CellIndInfo.ps_cipheringStarted := TRUE)   |                 |         |                                |
| 81 |       | [ NOT ( px_CipheringOnOff ) ]  |                 |         |                                |
| 82 |       | ( tcv_CellIndInfo.cs_cipheringStarted := FALSE , tcv_CellIndInfo.ps_cipheringStarted := FALSE )  |                 |         |                                |
| 83 |       | [ pc_UEA1_Supp ]   |                 |         |                                |
| 84 |       | (tcv_CellIndInfo.cipheringAlgorithmCapability<br>:= '0000000000000011'B)   |                 |         |                                |
| 85 |       | [ NOT ( pc_UEA1_Supp ) ]   |                 |         |                                |
| 86 |       | (tcv_CellIndInfo.cipheringAlgorithmCapability<br>:= '000000000000001'B)  |                 |         |                                |
|    |       | lt_InitIntegrity   |                 |         |                                |
| 87 |       | (tcv_CellIndInfo.recentSecureDomain:= p_CN_Domain)   |                 |         |                                |
| 88 |       | [ tcv_CellIndInfo.integrityStarted ]   |                 |         |                                |
| 89 |       | +ts_GetRRC_MessageSN (p_CellId)  |                 |         |                                |

|    |       | Test Step Dynamic B  | ehaviour        |         |                     |
|----|-------|--|-----------------|---------|---------------------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments            |
| 90 |       | ( tcv_CellIndInfo.dL_Integrity :=     cs_IntegrityProtectModify_P(     tcv_RRC_MSN_RB0 , tcv_RRC_MSN_RB1 ,     tcv_RRC_MSN_RB2, tcv_RRC_MSN_RB3,     tcv_RRC_MSN_RB4) , tcv_Int_ModifyFlag     := TRUE)                              |                 |         | Modify<br>integrity |
| 91 |       | [ NOT tcv_CellIndInfo.integrityStarted ]   |                 |         |                     |
| 92 |       | ( tcv_CellIndInfo.dL_Integrity :=     cs_IntegrityProtectStart ( px_FRESH ),     tcv_CellIndInfo.integrityStarted := TRUE,     tcv_CellIndInfo.dl_IntegrityCheckInfo :=     cs_IntegrityCheckInfo0, tcv_Int_ModifyFlag :=     FALSE) |                 |         | Start<br>integrity  |
|    |       | It_AssignRB_ActivationTimeInfoList   |                 |         |                     |
| 93 |       | [ ( ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR   |                 |         |                     |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS ) OR  |                 |         |                     |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS ) ) AND (p_CN_Domain = ps_domain ) ]   |                 |         |                     |
| 94 |       | ( tcv_RB_ActivationTimeInfoList :=     cs_RB_ActTimeInfoListSRBs_20     (tcv_RLC_SeqNumDL_RB1,     tcv_RLC_SeqNumDL_RB2+2,     tcv_RLC_SeqNumDL_RB3,     tcv_RLC_SeqNumDL_RB4,     tcv_RLC_SeqNumDL_RB20 ) )                         |                 |         |                     |
| 95 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB ) AND (p_CN_Domain = ps_domain ) ]   |                 |         |                     |
| 96 |       | ( tcv_RB_ActivationTimeInfoList :=     cs_RB_ActTimeInfoListSRBs_21     (tcv_RLC_SeqNumDL_RB1,     tcv_RLC_SeqNumDL_RB2+2,     tcv_RLC_SeqNumDL_RB3,     tcv_RLC_SeqNumDL_RB4,     tcv_RLC_SeqNumDL_RB21 ) )                         |                 |         |                     |
| 97 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) AND (p_CN_Domain = ps_domain ) ]  |                 |         |                     |

|     | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|-----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr  | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |  |
| 98  |                             | ( tcv_RB_ActivationTimeInfoList := cs_RB_ActTimeInfoListSRBs_20_21 (tcv_RLC_SeqNumDL_RB1, tcv_RLC_SeqNumDL_RB2+2, tcv_RLC_SeqNumDL_RB3, tcv_RLC_SeqNumDL_RB4, tcv_RLC_SeqNumDL_RB20, tcv_RLC_SeqNumDL_RB21 ))                            |                 |         |          |  |  |  |  |
| 99  |                             | [ ( (tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_2_PS_Call ))AND (p_CN_Domain = ps_domain ) ]  |                 |         |          |  |  |  |  |
| 100 |                             | ( tcv_RB_ActivationTimeInfoList :=     cs_RB_ActTimeInfoListSRBs_20_22     (tcv_RLC_SeqNumDL_RB1,     tcv_RLC_SeqNumDL_RB2+2,     tcv_RLC_SeqNumDL_RB3,     tcv_RLC_SeqNumDL_RB4,     tcv_RLC_SeqNumDL_RB20,     tcv_RLC_SeqNumDL_RB22)) |                 |         |          |  |  |  |  |
| 101 |                             | [TRUE]   |                 |         |          |  |  |  |  |
| 102 |                             | <pre>( tcv_RB_ActivationTimeInfoList :=   cs_RB_ActTimeInfoListSRBs   (tcv_RLC_SeqNumDL_RB1 ,   tcv_RLC_SeqNumDL_RB2 +2,   tcv_RLC_SeqNumDL_RB3 ,   tcv_RLC_SeqNumDL_RB4 ))</pre>  |                 |         |          |  |  |  |  |

**Detailed Comments**: 1. this step is necessary if ( ciphering is tested and shall be switch on) OR (ciphering is tested and shall be switch off and was previously switched on) OR integrity is tested

| Test | Step | Dynamic    | : Be | haviour |
|------|------|------------|------|---------|
|      | p    | <b>–</b> , |      |         |

Test Step Name : ts\_SS\_ResetSecurityKey
Group : BasicM\_Security\_Steps/

**Objective**: To download all security keys to CMAC (for DCH cell configurations only) and CRLC.

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | ( tcv_CellIndInfo:=c_CellIndInfoDef )                                   |                 |         |          |
| 2  |       | [ pc_UEA1_Supp ]  |                 |         |          |
| 3  |       | ( tcv_CellIndInfo.cipheringAlgorithmCapability := '0000000000000011'B)  |                 |         |          |
| 4  |       | [ NOT (pc_UEA1_Supp) ]  |                 |         |          |
| 5  |       | ( tcv_CellIndInfo.cipheringAlgorithmCapability := '00000000000000001'B) |                 |         |          |
|    |       |   |                 |         |          |

 $\begin{tabular}{ll} \textbf{Test Step Name} &: ts\_SS\_DownloadSecurityKey ( p\_CellId : INTEGER; p\_KC : KeyCiphering; p\_IK : IntegrityKey; p\_GSM\_ck : GSM\_CipheringKey; p\_CN\_Domain : CN\_DomainIdentity ) \\ \end{tabular}$ 

: BasicM\_Security\_Steps/ Group

Objective : To download all security keys to CMAC (for DCH cell configurations only) and CRLC.

Default : SS\_Def

Comments Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments     |
|----|-------|--|-----------------|---------|--------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |              |
| 2  |       | [ px_CipheringOnOff ]  |                 |         |              |
| 3  |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR   |                 |         | Cell<br>FACH |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_FACH_NoDedicated ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_StandAlonePCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_4_FACH_Cnfg1_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a)O |                 |         |              |

| (icv_TmpCellinfo.cellConfig =   cell_FACH_3_SCOPCH_4_FACH_2a_Cnfg1)  |        |       | Test Step Dynamic B  | Behaviour       |         |                          |
|--|--------|-------|--|-----------------|---------|--------------------------|
| cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1)  | Nr     | Label | Behaviour Description  | Constraints Ref | Verdict | Comments                 |
| (tev_TmpCellinfo.cellConfig = cell_RLC_DCH_AM_RAB_SRB) OR (tov_TmpCellinfo.cellConfig = cell_RLC_DCH_AM_RAB_iTsLis) OR (tev_TmpCellinfo.cellConfig = cell_RLC_DCH_AM_RAB_iTsLis) OR (tev_TmpCellinfo.cellConfig = cell_RLC_DCH_AM_RAB_iTsLis) OR (tev_TmpCellinfo.cellConfig = cell_RLC_DCH_UM_RAB_iTsLis) OR (tev_TmpCellinfo.cellConfig = cell_RLC_DCH_UM_RAB_iTsLis) OR (tev_TmpCellinfo.cellConfig = cell_PDCP_AM_RAB) OR (tev_TmpCellinfo.cellConfig = cell_PDCP_AM_RAB) OR (tev_TmpCellinfo.cellConfig = cell_PDCP_AM_RAB) OR (tev_TmpCellinfo.cellConfig = cell_DCH_AMC_SRB_NOCon_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_AMC_SRB_NOCon_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_AMC_SRB_NOCon_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_AMC_SRB_NOCon_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_2M_PS_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_2M_PS_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_2M_PS_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_2S_Call_) OR (tev_TmpCellinfo.cellConfig = cell_Four_DTCH_CS_PS_Init_) OR (tev_TmpCellinfo.cellConfig = cell_Four_DTCH_CS_PS_Init_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_Speech_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_Speech_) OR (tev_TmpCellinfo.cellConfig = cell_DCH_PS_CS_RAB_SRB) OR (tev_TmpCellinfo.cellConfig = cell_DCH_PS_CS_RAB_SRB) OR (tev_TmpCellinfo.cellConfig = cell_Tou_DTCH_PS_CS_Init_) OR (tell_Tou_DTCH_PS_CS_Init_) OR (tell_T |        |       | cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)] + lt_DownloadKeyCRLC ( tcv_HFN, p_KC, p_IK ) [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR   |                 |         | Cell<br>DCH no<br>TM RAB |
| p_KC,p_IK )  [ (tcv_TmpCellInfo.cellConfig = cell_DCH_Speech ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB)  OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) ]  + It_DownloadKeyCRLC (tcv_HFN,p_KC,p_IK)   |        |       | cell_DCH_StandAloneSRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_7Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_CS_PS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS_Init) ] |                 |         |                          |
| cell_DCH_Speech ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig =cell_Two_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig =cell_Four_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) ]  + lt_DownloadKeyCRLC ( tcv_HFN,p_KC,p_IK )   |        |       | p_KC,p_IK )  |                 |         | coll DCH                 |
| tcv_HFN,p_KC,p_IK )  |        |       | cell_DCH_Speech ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig =cell_Two_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig =cell_Four_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig =cell_Four_DTCH_PS_CS_Init) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) ]  |                 |         | with TM                  |
|  | 8<br>9 |       |  |                 |         |                          |

|    |       | Test Step Dynamic B   | ehaviour        |         |              |
|----|-------|---|-----------------|---------|--------------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments     |
| 10 |       | [TRUE]  |                 |         |              |
| 11 |       | [ NOT px_CipheringOnOff ]   |                 |         |              |
| 12 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR                    |                 |         | Cell<br>FACH |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR                             |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_NoDedicated ) OR<br>( tcv_TmpCellInfo.cellConfig = cell_FACH_PS |                 |         |              |
|    |       | ) OR  |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR                         |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_BMC_NoConn ) OR<br>( tcv_TmpCellInfo.cellConfig =               |                 |         |              |
|    |       | cell_FACH_2_PRACH_NoConn ) OR   |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH ) OR                     |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_2_SCCPCH_NoConn ) OR<br>( tcv_TmpCellInfo.cellConfig =          |                 |         |              |
|    |       | cell_FACH_2_SCCPCH ) OR   |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoC        |                 |         |              |
|    |       | onn ) OR  |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH ) OR       |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_2SCCPCH_StandAlonePCH_PS) OR                                    |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_3_SCCPCH_4_FACH_Cnfg1_No<br>Conn) OR                            |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_3_SCCPCH_4_FACH_Cnfg2_No<br>Conn) OR                            |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_3_SCCPCH_3_FACH_CTCH_No<br>Conn)OR                              |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_3_SCCPCH_4_FACH_Cnfg1) OR                                       |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) OR        |                 |         |              |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |              |
|    |       | cell_FACH_3_SCCPCH_3_FACH_CTCH)OR   |                 |         |              |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH)          |                 |         |              |
|    |       | OR  |                 |         | 1            |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a)OR       |                 |         |              |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1) OR      |                 |         |              |
|    |       | (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2)]        |                 |         |              |
| 13 |       | + It_DownloadKeyCRLC ( tcv_HFN,OMIT,p_IK)                                 |                 |         |              |

|    |       | Test Step Dynamic   | Behaviour   |         |   |
|----|-------|---|---|---------|---|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments                                    |
| 14 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call ) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS_Init) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS_Init) ] |   |         | Cell<br>DCH no<br>TM RAB                    |
| 15 |       | + It_DownloadKeyCRLC ( tcv_HFN ,OMIT, p_IK )  |   |         |   |
| 16 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_Speech ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) ]   |   |         | cell DCH<br>with TM<br>RAB                  |
| 17 |       | + lt_DownloadKeyCRLC ( tcv_HFN,OMIT, p_IK )   |   |         |   |
| 18 |       | [TRUE]  It_DownloadKeyCMAC ( p_HFN : B20; p_KC_LT : KeyCiphering )  |   |         |   |
| 19 |       | CMAC ! CMAC_SecurityMode_Config_REQ   | ca_CMAC_SecurityModeCf<br>gReq ( tsc_CellDedicated ,<br>p_CN_Domain, p_HFN ,<br>p_KC_LT, OMIT, OMIT ) |         | Downloa<br>d<br>security<br>keys for<br>MAC |
| 20 |       | CMAC ? CMAC_SecurityMode_Config_CNF   | ca_CMAC_SecurityModeCf<br>gCnf ( tsc_CellDedicated )  |         |   |
|    |       | lt_DownloadKeyCRLC ( p_HFN : B20; p_KC_LT : KeyCiphering; p_IK_LT : IntegrityKey )  |   |         |   |

|    | Test Step Dynamic Behaviour |                                     |   |         |  |  |  |  |  |
|----|-----------------------------|-------------------------------------|---|---------|--|--|--|--|--|
| Nr | Label                       | Behaviour Description               | Constraints Ref   | Verdict | Comments   |  |  |  |  |
| 21 |                             | CRLC ! CRLC_SecurityMode_Config_REQ | ca_CRLC_SecurityModeCfg Req ( tsc_CellDedicated , p_CN_Domain, p_HFN , p_KC_LT, p_IK_LT, OMIT ) |         | Downloa d security keys for RLC. CRLC is configur ed with cellId –1 ( tsc_Cell Dedicate d) |  |  |  |  |
| 22 |                             | CRLC ? CRLC_SecurityMode_Config_CNF | ca_CRLC_SecurityModeCfg Cnf ( tsc_CellDedicated )   |         |  |  |  |  |  |

Test Step Name : ts\_SS\_SecurityDownloadStart ( p\_domain : CN\_DomainIdentity ; p\_StartValue : B20 )

Group : BasicM\_Security\_Steps/

Objective : To download a new START value In the cell Independent Record

Default : SS\_Def

Comments : Description :

| Nr   | Label               | Behaviour Description                      | Constraints Ref | Verdict | Comments |  |  |  |
|------|---------------------|--|-----------------|---------|----------|--|--|--|
| 1    |                     | [ p_domain = cs_domain ]                   |                 |         |          |  |  |  |
| 2    |                     | (tcv_CellIndInfo.start_CS := p_StartValue) |                 |         |          |  |  |  |
| 3    |                     | [ p_domain = ps_domain ]                   |                 |         |          |  |  |  |
| 4    |                     | (tcv_CellIndInfo.start_PS := p_StartValue) |                 |         |          |  |  |  |
| Deta | Detailed Comments : |  |                 |         |          |  |  |  |

Test Step Name : ts\_SetDL\_RRC\_MessageSN (p\_ActCell : INTEGER)

Group : BasicM\_Security\_Steps/

Objective : To Set the Message sequence number in DL to all 0 for RB0 to RB4

Default : SS\_Def

**Comments**: This step to be used when Integrity is to be started

| Nr   | Label    | Behaviour Description                  | Constraints Ref   | Verdict | Comments |
|------|----------|--|---|---------|----------|
| 1    |          | CRLC ! CRLC_SetRRC_MessageSN_REQ       | ca_DL_CRLC_SetRRC_MS<br>N_REQ (p_ActCell,<br>tsc_RB0, 0 )         |         |          |
| 2    |          | CRLC ?CRLC_SetRRC_MessageSN_CNF        | ca_CRLC_SetRRC_MSN_C<br>NF ( p_ActCell, tsc_RB0 )                 |         |          |
| 3    |          | CRLC ! CRLC_SetRRC_MessageSN_REQ       | ca_DL_CRLC_SetRRC_MS<br>N_REQ( tsc_CellDedicated,<br>tsc_RB1, 0 ) |         |          |
| 4    |          | CRLC ?CRLC_SetRRC_MessageSN_CNF        | ca_CRLC_SetRRC_MSN_C NF (tsc_CellDedicated, tsc_RB1)              |         |          |
| 5    |          | CRLC ! CRLC_SetRRC_MessageSN_REQ       | ca_DL_CRLC_SetRRC_MS<br>N_REQ( tsc_CellDedicated,<br>tsc_RB2, 0)  |         |          |
| 6    |          | CRLC<br>?CRLC_SetRRC_MessageSN_CNF     | ca_CRLC_SetRRC_MSN_C NF (tsc_CellDedicated, tsc_RB2)              |         |          |
| 7    |          | CRLC!<br>CRLC_SetRRC_MessageSN_REQ     | ca_DL_CRLC_SetRRC_MS<br>N_REQ( tsc_CellDedicated,<br>tsc_RB3, 0)  |         |          |
| 8    |          | CRLC<br>?CRLC_SetRRC_MessageSN_CNF     | ca_CRLC_SetRRC_MSN_C NF (tsc_CellDedicated, tsc_RB3)              |         |          |
| 9    |          | CRLC!<br>CRLC_SetRRC_MessageSN_REQ     | ca_DL_CRLC_SetRRC_MS<br>N_REQ( tsc_CellDedicated,<br>tsc_RB4, 0)  |         |          |
| 10   |          | CRLC<br>?CRLC_SetRRC_MessageSN_CN<br>F | ca_CRLC_SetRRC_MSN_C<br>NF (tsc_CellDedicated,<br>tsc_RB4)        |         |          |
| Deta | iled Com | iments :                               |   |         |          |

 $\textbf{Test Step Name} \quad \textbf{:} \quad ts\_RB2\_UL\_IntegrityActivate(p\_RRCSN: RRC\_MessageSequenceNumber)$ 

Group : BasicM\_Security\_Steps/

Objective :

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description              | Constraints Ref  | Verdict | Comments |
|----|-------|------------------------------------|--|---------|----------|
| 1  |       | CRLC ! CRLC_Integrity_Activate_REQ | ca_CRLC_UL_IntegrityActi<br>vateReq ( tsc_CellDedicated  |         |          |
|    |       |                                    | tcv_CellIndInfo.recentSecur<br>eDomain,<br>c_RB2_IntegrityProtActivati<br>onInfoList( p_RRCSN) ) |         |          |
| 2  |       | CRLC ?CRLC_Integrity_Activate_CNF  | ca_CRLC_IntegrityActivate Cnf (tsc_CellDedicated )   |         |          |

 $\textbf{Test Step Name} \quad \textbf{:} \quad ts\_CMAC\_CipherCfg \ ( \ p\_CellId : INTEGER; p\_CalcNewActTime : BOOLEAN; p\_CipherMode: \\ \quad \quad \quad CipheringModeCommand; \ p\_IncrDcr : Increment\_Mode \ )$ 

: BasicM\_Security\_Steps/ Group

Objective : To Configuare the MAC Layer with the

Default Comments Description

| Nr | Label | Behaviour Description   | Constraints Ref                             | Verdict | Comments       |
|----|-------|---|---|---------|----------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |   |         |                |
| 2  |       | [( ( tcv_TmpCellInfo.cellConfig =   |   |         |                |
|    |       | cell_DCH_Speech) OR ( tcv_TmpCellInfo.cellConfig                                |   |         |                |
|    |       | =cell_DCH_64kCS_RAB_SRB) OR   |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |   |         |                |
|    |       | cell_DCH_57_6kCS_RAB_SRB) OR  |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH ) OR                               |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |   |         |                |
|    |       | cell_Four_DTCH_CS) OR   |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig<br>=cell_Two_DTCH_PS_CS ) OR                       |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig  |   |         |                |
|    |       | =cell_Four_DTCH_PS_CS) OR   |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig  |   |         |                |
|    |       | =cell_Two_DTCH_CS_PS) OR<br>( tcv_TmpCellInfo.cellConfig                        |   |         |                |
|    |       | =cell_Four_DTCH_CS_PS) OR   |   |         |                |
|    |       | ( tcv_TmpCellInfo.cellConfig =  |   |         |                |
|    |       | cell_DCH_DSCH_CS_PS )) AND( tcv_CellIndInfo. recentSecureDomain                 |   |         |                |
|    |       | =cs_domain)]  |   |         |                |
| 3  |       | +lt_CalcActivationTime  |   |         |                |
| 4  |       | +ts_CMAC_DL_CipherCfg ( p_CipherMode, tcv_CipherActTime, p_IncrDcr )            |   |         |                |
| 5  |       | <pre>+ts_CMAC_UL_CipherCfg ( p_CipherMode, tcv_CipherActTime, p_IncrDcr )</pre> |   |         |                |
| 6  |       | [TRUE]  |   | (P)     | No TM          |
| O  |       | [TROE]  |   | ('')    | RAB            |
|    |       |   |   |         | configur       |
|    |       |   |   |         | ed             |
|    |       | lt_CalcActivationTime   |   |         |                |
| 7  |       | [ p_CalcNewActTime = TRUE]  |   |         |                |
| 8  |       | CPHY ! CPHY_Frame_Number_REQ  | cas_GetFrameNum(<br>p_CellId, tsc_DL_DPCH1) |         |                |
| 9  |       | CPHY?CPHY Frame Number CNF  | car_GetFrameNum(                            |         |                |
| 5  |       | (tcv_FrameNumber :=   | p_CellId, tsc_DL_DPCH1)                     |         |                |
|    |       | CPHY_Frame_Number_CNF.frameNumber)  | · · /                                       |         |                |
| 10 |       | (tcv_CipherActTime := (256 +  |   |         | Calculate      |
|    |       | tcv_FrameNumber ( tcv_FrameNumber   |   |         | the            |
|    |       | MOD 8 +8)) MOD 256)   |   |         | Cipherin       |
|    |       |   |   |         | g<br>Activatio |
|    |       | [   |   |         | n Time         |
| 11 |       | [ p_CalcNewActTime = FALSE]   |   |         |                |

 $\textbf{Test Step Name} \quad : \ \, ts\_GetRRC\_MessageSN(p\_CellId:INTEGER)$ 

Group : BasicM\_Security\_Steps/

**Objective**: To Calculate the Message sequence numbers for RB0 to RB4 and store in TCV's.

Default :
Comments :
Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  | Label | CRLC !CRLC_RRC_MessageSN_REQ   | cas_CRLC_RRC_MessageS  | VEIUICE | Comments |
| '  |       | CRLC !CRLC_RRC_INIESSAGESIN_REQ  | N_REQ ( tsc_CellDedicated, tsc_RB0 )                           |         |          |
| 2  |       | CRLC ? CRLC_RRC_MessageSN_CNF (tcv_RRC_MSN_RB0 := CRLC_RRC_MessageSN_CNF.count_I_LSB_D L)  | car_CRLC_RRC_MessageS<br>N_CNF (tsc_CellDedicated,<br>tsc_RB0) |         |          |
| 3  |       | CRLC !CRLC_RRC_MessageSN_REQ   | cas_CRLC_RRC_MessageS<br>N_REQ (tsc_CellDedicated,<br>tsc_RB1) |         |          |
| 4  |       | CRLC ? CRLC_RRC_MessageSN_CNF ( tcv_RRC_MSN_RB1 :=     CRLC_RRC_MessageSN_CNF.count_I_LSB     _DL )  | car_CRLC_RRC_MessageS<br>N_CNF (tsc_CellDedicated,<br>tsc_RB1) |         |          |
| 5  |       | CRLC ! CRLC_RRC_MessageSN_REQ  | cas_CRLC_RRC_MessageS<br>N_REQ (tsc_CellDedicated,<br>tsc_RB2) |         |          |
| 6  |       | CRLC ? CRLC_RRC_MessageSN_CNF ( tcv_RRC_MSN_RB2 :=     CRLC_RRC_MessageSN_CNF.count_I_L     SB_DL,     tcv_RRC_MSN_RB2_UL :=     CRLC_RRC_MessageSN_CNF.count_I_L     SB_UL) | car_CRLC_RRC_MessageS<br>N_CNF (tsc_CellDedicated,<br>tsc_RB2) |         |          |
| 7  |       | CRLC!CRLC_RRC_MessageSN_REQ  | cas_CRLC_RRC_MessageS<br>N_REQ (tsc_CellDedicated,<br>tsc_RB3) |         |          |
| 8  |       | CRLC ? CRLC_RRC_MessageSN_CNF ( tcv_RRC_MSN_RB3 := CRLC_RRC_MessageSN_CNF.count_ I_LSB_DL)   | car_CRLC_RRC_MessageS<br>N_CNF (tsc_CellDedicated,<br>tsc_RB3) |         |          |
| 9  |       | CRLC !<br>CRLC_RRC_MessageSN_REQ   | cas_CRLC_RRC_MessageS<br>N_REQ (tsc_CellDedicated,<br>tsc_RB4) |         |          |
| 10 |       | CRLC ? CRLC_RRC_MessageSN_CNF (tcv_RRC_MSN_RB4 := CRLC_RRC_MessageSN_CNF.cou nt_I_LSB_DL)  | car_CRLC_RRC_MessageS<br>N_CNF (tsc_CellDedicated,<br>tsc_RB4) |         |          |

 $\textbf{Test Step Name} \quad : \ ts\_CMAC\_UL\_DL\_CipherCfg \ ( \ p\_CipherMode: CipheringModeCommand; \ p\_ActTime: INTEGER; \\ \quad p\_IncrDcr : Increment\_Mode \ )$ 

Group : BasicM\_Security\_Steps/

Objective : Configure ciphering on the MAC layer for UL and DLRBs.

: SS\_Def Default

Comments Description

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | +ts_CMAC_DL_CipherCfg ( p_CipherMode, p_ActTime, p_IncrDcr ) |                 |         |          |
| 2  |       | +ts_CMAC_UL_CipherCfg ( p_CipherMode, p_ActTime, p_IncrDcr ) |                 |         |          |
|    |       |  |                 |         |          |

Test Step Name : ts\_CMAC\_Pag1\_Cfg ( p\_CellId: INTEGER )

Group : BasicM\_SS\_Configuration\_Steps/
Objective : Configure paging on the MAC layer.

Default : SS\_Def

**Comments**: This step shall be used when UE in idle mode.

The DRX cycle length to use is the shortest of the CN domain specific Drx cycle length.

The test case variable tcv\_dRX\_CycleLengthPaging is assigned to: the smallest value of CN Drx cycle

length for the CN domain the UE is attached to.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |   |         |          |
| 2  |       | $[px_RAT = fdd]$  |   |         |          |
| 3  |       | + lt_CalculateDrxCycleLength  |   |         |          |
| 4  |       | CMAC! CMAC_PAGING_Config_REQ  | ca_CMAC_PagingCfgReq(p<br>_CellId, tsc_S_CCPCH1,<br>fdd, c_MAC_PagingCfg<br>(o_GetPI(px_IMSI_Def,<br>18),<br>tcv_dRX_CycleLengthPagin<br>g )) |         |          |
| 5  |       | CMAC ? CMAC_PAGING_Config_CNF   | ca_CMAC_PagingCfgCnf(p<br>_CellId, tsc_S_CCPCH1)  |         |          |
| 6  | ERR1  | [px_RAT = tdd ]   |   | 1       |          |
| 7  | ERR2  | [TRUE]  |   | 1       |          |
|    |       | lt_CalculateDrxCycleLength  |   |         |          |
| 8  |       | [pc_CS AND pc_PS]   |   |         | 0.       |
| 9  |       | [ tcv_TmpCellInfo.dRX_CycleLength.cN_CS_DRX _CycleLength <= tcv_TmpCellInfo.dRX_CycleLength.cN_PS_DRX _CycleLength] |   |         | 1.       |
| 10 |       | ( tcv_dRX_CycleLengthPaging :=<br>tcv_TmpCellInfo.dRX_CycleLength.cN_CS_DR<br>X_CycleLength )                       |   |         |          |
| 11 |       | [TRUE]  |   |         | 2.       |
| 12 |       | ( tcv_dRX_CycleLengthPaging :=<br>tcv_TmpCellInfo.dRX_CycleLength.cN_PS_DR<br>X_CycleLength )                       |   |         |          |
| 13 |       | [pc_CS AND NOT (pc_PS) ]  |   |         | 3.       |
| 14 |       | ( tcv_dRX_CycleLengthPaging :=<br>tcv_TmpCellInfo.dRX_CycleLength.cN_CS_DRX<br>_CycleLength )                       |   |         |          |
| 15 |       | [pc_PS AND NOT (pc_CS) ]  |   |         | 4.       |
| 16 |       | ( tcv_dRX_CycleLengthPaging :=<br>tcv_TmpCellInfo.dRX_CycleLength.cN_PS_DRX<br>_CycleLength )                       |   |         |          |

Detailed Comments: 0. UE supports CS and PS

- 1. CN Drx Cycle length for CS is smaller than PS, then CN Drx Cycle length for CS is used
- $2. \ \ CN \ Drx \ Cycle \ length \ for \ CS \ is \ smaller \ than \ PS, \ then \ CN \ Drx \ Cycle \ length \ for \ PS \ is \ used$
- 3. UE supports only CS, the CN Drx cycle length for CS is used
- 4. UE supports only PS, the CN Drx cycle length for PS is used

Test Step Name : ts\_CMAC\_Rel ( p\_CellId : INTEGER; p\_PhyCH : PhysicalChannelIdentity )

Group : BasicM\_SS\_Configuration\_Steps/
Objective : To request to release the Radio Link

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref                      | Verdict | Comments |
|----|-------|------------------------|--------------------------------------|---------|----------|
| 1  |       | CMAC ! CMAC_Config_REQ | cas_MAC_Rel ( p_CellId , p_PhyCH )   |         |          |
| 2  |       | CMAC ? CMAC_Config_CNF | ca_CMAC_CfgCnf(<br>p_CellId,p_PhyCH) |         |          |

**Detailed Comments:** 

### **Test Step Dynamic Behaviour**

Test Step Name : ts\_CPHY\_ActTime (p\_CellId: INTEGER; p\_PhysicalChannelIdentity; PhysicalChannelIdentity;

p\_ttiValue : INTEGER )

Group : BasicM\_SS\_Configuration\_Steps/

Objective : To calculate the activation time based on CHY frame number

Default : SS\_Def

Comments : p\_ttiValue : is equal to tti/10

The following tcv are assigned: tcv\_FrameNumber, tcv\_ActTime

Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | CPHY ! CPHY_Frame_Number_REQ   | cas_GetFrameNum(<br>p_CellId,<br>p_PhysicalChannelIdentity) |         |          |
| 2  |       | CPHY ? CPHY_Frame_Number_CNF (tcv_FrameNumber := CPHY_Frame_Number_CNF.frameNumber)  | car_GetFrameNum(<br>p_CellId,<br>p_PhysicalChannelIdentity) |         |          |
| 3  |       | (tcv_ActTime := (256 + tcv_FrameNumber- ( tcv_FrameNumber MOD 8 +8)) MOD 256, tcv_TGCFN := (tcv_FrameNumber+(256-p_ttiValue)) MOD 256) |   |         |          |

Test Step Name : ts\_CPHY\_TrChRelDCH\_NoSHO ( p\_CellId : INTEGER; p\_PhyCH : PhysicalChannelIdentity )

Group : BasicM\_SS\_Configuration\_Steps/
Objective : To request to release the Radio Link

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description        | Constraints Ref                                   | Verdict | Comments |
|----|-------|------------------------------|---|---------|----------|
| 1  |       | CPHY ! CPHY_TrCH_Release_REQ | ca_PHY_RelReqDCH_NoS<br>HO ( p_CellId , p_PhyCH ) |         |          |
| 2  |       | CPHY ? CPHY_TrCH_Release_CNF | ca_PHY_RelCnf(p_CellId,<br>p_PhyCH)               |         |          |

**Detailed Comments:** 

### **Test Step Dynamic Behaviour**

Test Step Name : ts\_CPHY\_TrChRelNonDch ( p\_CellId : INTEGER; p\_PhyCH : PhysicalChannelIdentity )

Group : BasicM\_SS\_Configuration\_Steps/
Objective : To request to release the Radio Link

Default : SS\_Def

Comments : Description :

| Nr                  | Label | Behaviour Description        | Constraints Ref                               | Verdict | Comments |  |  |
|---------------------|-------|------------------------------|---|---------|----------|--|--|
| 1                   |       | CPHY ! CPHY_TrCH_Release_REQ | ca_PHY_RelReqNonDch (<br>p_CellId , p_PhyCH ) |         |          |  |  |
| 2                   |       | CPHY ? CPHY_TrCH_Release_CNF | ca_PHY_RelCnf ( p_CellId , p_PhyCH )          |         |          |  |  |
| Detailed Comments : |       |                              |   |         |          |  |  |

**Detailed Comments:** 

### **Test Step Dynamic Behaviour**

Test Step Name : ts\_CRLC\_Rel ( p\_CellId : INTEGER; p\_RB\_Id : INTEGER )

Group : BasicM\_SS\_Configuration\_Steps/

Objective : To release RLC entity.

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref                          | Verdict | Comments                   |
|----|-------|------------------------|--|---------|----------------------------|
| 1  |       | CRLC ! CRLC_Config_REQ | ca_CRLC_RB_RelReq<br>(p_CellId, p_RB_Id) |         | release<br>radio<br>bearer |
| 2  |       | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf(<br>p_CellId, p_RB_Id)    |         |                            |

Test Step Name : ts\_CRLC\_RelReconfSRB (p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : To release RLC counter sequence number for SRB 1 to 4, by first releasing them and then setting

them up again.

Default : SS Def

Comments : This step is used only in conjonction with the RRC Connestion Release step. The configuration for

SRBs 1 to 4 is the same as the one used for cell\_DCH and cell\_FACH.

Description :

| Nr | Label | Behaviour Description                        | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 ) |                 |         |          |
| 2  |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB2)   |                 |         |          |
| 3  |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB3)   |                 |         |          |
| 4  |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4    |                 |         |          |
|    |       | )  |                 |         |          |
| 5  |       | + ts_SS_RB1_ToRB4_Cfg                        |                 |         |          |

Test Step Name : ts\_CRLC\_ResumeSecurity ( p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

**Objective**: resume radio bearers for the security procedure

Default : SS\_Def

Comments : CRLC is configured with cellId -1 ( tsc\_CellDedicated )

Description :

| Nr | Label | Behaviour Description   | Constraints Ref                           | Verdict | Comments                       |
|----|-------|---|---|---------|--------------------------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )  |   |         | Swithch<br>On<br>cipherin<br>g |
| 2  |       | CRLC ! CRLC_Resume_REQ  | cas_ResumeRB(tsc_CellDedicated, tsc_RB1)  |         |                                |
| 3  |       | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB1)  |         |                                |
| 4  |       | CRLC! CRLC_Resume_REQ   | cas_ResumeRB(tsc_CellDedicated, tsc_RB3)  |         |                                |
| 5  |       | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB3)  |         |                                |
| 6  |       | CRLC! CRLC_Resume_REQ   | cas_ResumeRB(tsc_CellDedicated, tsc_RB4)  |         |                                |
| 7  |       | CRLC ? CRLC_Resume_CNF<br>(tcv_RB_SigResumed := TRUE)   | car_ResumeRB(tsc_CellDedicated, tsc_RB4)  |         |                                |
| 8  |       | [ (( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) OR ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAloneP CH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cn fg1 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cn fg2 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_CT CH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CT CH ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS ))AND ( tcv_CellIndInfo. recentSecureDomain = ps_domain ) ] |   |         |                                |
| 9  |       | CRLC! CRLC_Resume_REQ   | cas_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |                                |
| 10 |       | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |                                |

|      |          | Test Step Dynamic   | Behaviour                                 |         |          |
|------|----------|---|---|---------|----------|
| Nr   | Label    | Behaviour Description   | Constraints Ref                           | Verdict | Comments |
| 11   |          | [ tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB ]   |   |         |          |
| 12   |          | CRLC ! CRLC_Resume_REQ  | cas_ResumeRB(tsc_CellDedicated, tsc_RB21) |         |          |
| 13   |          | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB21) |         |          |
| 14   |          | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) ]  |   |         |          |
| 15   |          | CRLC ! CRLC_Resume_REQ  | cas_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |          |
| 16   |          | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |          |
| 17   |          | CRLC! CRLC_Resume_REQ   | cas_ResumeRB(tsc_CellDedicated, tsc_RB21) |         |          |
| 18   |          | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB21) |         |          |
| 19   |          | [(tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2_PS_Call)] |   |         |          |
| 20   |          | CRLC ! CRLC_Resume_REQ  | cas_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |          |
| 21   |          | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB20) |         |          |
| 22   |          | CRLC ! CRLC_Resume_REQ  | cas_ResumeRB(tsc_CellDedicated, tsc_RB22) |         |          |
| 23   |          | CRLC ? CRLC_Resume_CNF  | car_ResumeRB(tsc_CellDedicated, tsc_RB22) |         |          |
| 24   |          | [TRUE]  |   |         |          |
| Deta | iled Com | ments :   |   |         |          |

Test Step Name : ts\_CRLC\_SuspendSecurity ( p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

**Objective**: suspend radio bearers for the security procedure

Default : SS\_Def\_Special

Comments : CRLC is configured with cellId -1 ( tsc\_CellDedicated )

Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments                       |
|----|-------|--|---|---------|--------------------------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |   |         | Swithch<br>On<br>cipherin<br>g |
| 2  |       | CRLC ! CRLC_Suspend_REQ  | cas_RLC_SuspendRB ( tsc_CellDedicated , tsc_RB1, tcv_RLC_SeqNumDL_RB1 )       |         | 2                              |
| 3  |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB ( tsc_CellDedicated , tsc_RB1                                   |         |                                |
| 4  |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB ( tsc_CellDedicated , tsc_RB3, tcv_RLC_SeqNumDL_RB3 )       |         | 2                              |
| 5  |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB ( tsc_CellDedicated , tsc_RB3 )                                 |         |                                |
| 6  |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB<br>(tsc_CellDedicated ,<br>tsc_RB4,<br>tcv_RLC_SeqNumDL_RB4 |         | 2                              |
| 7  |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB ( tsc_CellDedicated , tsc_RB4 )                                 |         |                                |
| 8  |       | [((tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_PS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAloneP CH_PS) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cn fg1) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cn fg2) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cn fg2) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CT |   |         |                                |

|    |       | Test Step Dynamic  | : Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|    |       | CH ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS ) ) AND (tcv_CellIndInfo. recentSecureDomain =ps_domain) ] |   |         |          |
| 9  |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB (tsc_CellDedicated , tsc_RB20, tcv_RLC_SeqNumDL_RB20 )        |         | 2        |
| 10 |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB ( tsc_CellDedicated , tsc_RB20 )                                  |         |          |
| 11 |       | [( tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB) AND (tcv_CellIndInfo. recentSecureDomain =ps_domain)]  |   |         |          |
| 12 |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB<br>(tsc_CellDedicated ,<br>tsc_RB21,<br>tcv_RLC_SeqNumDL_RB21 |         | 2        |
| 13 |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB ( tsc_CellDedicated , tsc_RB21 )                                  |         |          |
| 14 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB)AND (tcv_CellIndInfo. recentSecureDomain =ps_domain) ]  |   |         |          |
| 15 |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB (tsc_CellDedicated , tsc_RB20, tcv_RLC_SeqNumDL_RB20 )        |         | 2        |
| 16 |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB (<br>tsc_CellDedicated ,<br>tsc_RB20 )                            |         |          |
| 17 |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB<br>(tsc_CellDedicated ,<br>tsc_RB21,<br>tcv_RLC_SeqNumDL_RB21 |         | 2        |
| 18 |       | CRLC ? CRLC_Suspend_CNF  | car_SuspendRB (<br>tsc_CellDedicated ,<br>tsc_RB21 )                            |         |          |
| 19 |       | [(( tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_2_PS_Call )) AND (tcv_CellIndInfo. recentSecureDomain =ps_domain)]         |   |         |          |
| 20 |       | CRLC! CRLC_Suspend_REQ   | cas_RLC_SuspendRB (tsc_CellDedicated , tsc_RB20, tcv_RLC_SeqNumDL_RB20 )        |         | 2        |

#### Continued from previous page

|    | Test Step Dynamic Behaviour |                         |   |         |          |  |  |  |
|----|-----------------------------|-------------------------|---|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref   | Verdict | Comments |  |  |  |
| 21 |                             | CRLC ? CRLC_Suspend_CNF | car_SuspendRB (<br>tsc_CellDedicated ,<br>tsc_RB20 )                            |         |          |  |  |  |
| 22 |                             | CRLC! CRLC_Suspend_REQ  | cas_RLC_SuspendRB<br>(tsc_CellDedicated ,<br>tsc_RB22,<br>tcv_RLC_SeqNumDL_RB22 |         | 2        |  |  |  |
| 23 |                             | CRLC ? CRLC_Suspend_CNF | car_SuspendRB ( tsc_CellDedicated , tsc_RB22 )                                  |         |          |  |  |  |
| 24 |                             | [TRUE]                  |   |         |          |  |  |  |

Detailed Comments : 1. Get the RLC sequence number 2. suspend the SRB at the current RLC sequence number

Test Step Name : ts\_ReconfigFACH\_ToNoDedicated ( p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

**Objective**: To reconfig the cell from cell\_FACH to cell\_FACH\_NoDedicated.

Default : SS\_Def

Comments : In cell\_FACH\_NoDedicated, no DCCH/DTCH are configured: no C-RNTI nor U-RNTI are

downloaded to CMAC.

Description :

| Nr   | Label    | Behaviour Description  | Constraints Ref  | Verdict | Comments                                     |
|------|----------|--|--|---------|--|
| 1    |          | +ts_SetTmpCellInfo (p_CellId)  |  |         |  |
| 2    |          | $[px_RAT = fdd]$   |  |         |  |
| 3    |          | + lt_RelBCCH_FACH  |  |         |  |
| 4    |          | CMAC! CMAC_Config_REQ  | ca_CMAC_ReconfigInfoAct Now ( p_CellId, tsc_S_CCPCH1, c_UE_Info( OMIT, OMIT ), c_TrChInfoPCH_FACH, c_TrLogMappingPCH_FAC H_CellDCH ) |         | map<br>PCCH<br>to PCH,<br>CCCH<br>to<br>FACH |
| 5    |          | CMAC ? CMAC_Config_CNF   | ca_CMAC_CfgCnf(p_CellId<br>, tsc_S_CCPCH1)   |         |  |
| 6    |          | CMAC ! CMAC_Config_REQ   | ca_CMAC_ReconfigInfoAct Now (p_CellId, tsc_PRACH1, c_UE_Info( OMIT, OMIT), cb_TrChInfoRACH1, cb_TrLogMappingRACH2)                   |         | mapping<br>CCCH<br>to<br>RACH                |
| 7    |          | CMAC ? CMAC_Config_CNF   | ca_CMAC_CfgCnf(p_CellId<br>, tsc_PRACH1)   |         |  |
| 8    | ERR1     | $[px_RAT = tdd]$   |  | 1       |  |
| 9    | ERR2     | [TRUE]   |  | 1       |  |
|      |          | lt_RelBCCH_FACH  |  |         |  |
| 10   |          | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) ] |  |         |  |
| 11   |          | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )   |  |         |  |
| 12   |          | [TRUE]   |  |         |  |
| Deta | iled Com | ments :  |  |         |  |

Test Step Name : ts\_SS\_1DCH\_DCCH\_Cfg ( p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : to configure physical channel DPCH1and connect DCH5 to the physical channel,then map DCCH1-4

on to the DCH5 transport channel. Used for setting up stand-alone UL:13.6 DL:13.6 kbps SRBs

Default : SS Def

**Comments**: The transport channel DCH5 carries only dedicated control channels.

MAC-d is configured with cellId -1 (tsc\_CellDedicated).

Description :

| Nr | Label | Behaviour Description            | Constraints Ref  | Verdict | Comments   |
|----|-------|----------------------------------|--|---------|--|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId ) |  |         |  |
| 2  |       | $[px\_RAT = fdd]$                |  |         |  |
| 3  |       | ( tcv_TGCFN := 0)                |  |         |  |
| 4  |       | CPHY!CPHY_RL_Setup_REQ           | ca_DL_DPCH_Info ( p_CellId, tsc_DL_DPCH1, cb_DL_DPCH_SRB_Stand AloneDPCH_Offset ( tcv_TmpCellInfo.dl_DPCH_ 2ndScrCode ) )            |         | 1.   |
| 5  |       | CPHY?CPHY_RL_Setup_CNF           | ca_RL_SetupCnf ( p_CellId, tsc_DL_DPCH1)   |         |  |
| 6  |       | CPHY!CPHY_TrCH_Config_REQ        | ca_DCH_148_TTI_10_DL_I<br>nfoActNow ( p_CellId,<br>tsc_DL_DPCH1 )  |         | 2.   |
| 7  |       | CPHY?CPHY_TrCH_Config_CNF        | ca_TrChCfgCnf(p_CellId, tsc_DL_DPCH1)  |         |  |
| 8  |       | CMAC ! CMAC_Config_REQ           | ca_CMAC_CfgInfo ( tsc_CellDedicated, tsc_DL_DPCH1, c_UE_Info ( OMIT, OMIT), c_TrChInfoDL_13_6_Stand Alone, c_TrLogMappingDL_4DCC H)  |         | 3.<br>C-RNTI<br>and<br>U-RNTI<br>are not<br>needed<br>on<br>DPCH |
| 9  |       | CMAC ? CMAC_Config_CNF           | ca_CMAC_CfgCnf(<br>tsc_CellDedicated,<br>tsc_DL_DPCH1)   |         |  |
| 10 |       | CPHY!CPHY_RL_Setup_REQ           | ca_UL_DPCH_Info(p_CellI<br>d, tsc_UL_DPCH1,<br>c_UL_DPCH_13_6_StandA<br>lone(<br>tcv_TmpCellInfo.uL_Scrambl<br>ingCode))             |         | 1.   |
| 11 |       | CPHY?CPHY_RL_Setup_CNF           | ca_RL_SetupCnf(p_CellId, tsc_UL_DPCH1)   |         |  |
| 12 |       | CPHY!CPHY_TrCH_Config_R<br>EQ    | ca_DCH_148_TTI_10_UL_I<br>nfoActNow ( p_CellId,<br>tsc_UL_DPCH1 )  |         | 2.   |
| 13 |       | CPHY?CPHY_TrCH_Config_<br>CNF    | ca_TrChCfgCnf ( p_CellId, tsc_UL_DPCH1 )   |         |  |
| 14 |       | CMAC !<br>CMAC_Config_REQ        | ca_CMAC_CfgInfo ( tsc_CellDedicated, tsc_UL_DPCH1, c_UE_Info ( OMIT, OMIT ), c_TrChInfoUL_13_6_Stand Alone, c_TrLogMappingUL_4DCC H) |         | 3.<br>C-RNTI<br>and<br>U-RNTI<br>are not<br>needed<br>on<br>DPCH |

### Continued from previous page

|    | Test Step Dynamic Behaviour |                           |  |         |          |  |  |  |
|----|-----------------------------|---------------------------|--|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description     | Constraints Ref  | Verdict | Comments |  |  |  |
| 15 |                             | CMAC ?<br>CMAC_Config_CNF | ca_CMAC_CfgCnf (<br>tsc_CellDedicated,<br>tsc_UL_DPCH1 ) |         |          |  |  |  |
| 16 | ERR1                        | $[px_RAT = tdd]$          |  | 1       |          |  |  |  |
| 17 | ERR2                        | [TRUE]                    |  | 1       |          |  |  |  |

Detailed Comments : 1. configure physical channel DPCH1.
2. connect DCH5 to DPCH1.
3. map logical channels: DCCH1-4 to DCH5. MAC-d is to be configured with cellId -1.

Test Step Name: ts\_SS\_1DCH\_DCCH\_Modify (p\_CellId: INTEGER; p\_ActTime: ActivationTime)

Group : BasicM\_SS\_Configuration\_Steps/

Objective : to configure physical channel DPCH1and connect DCH5 to the physical channel,then map DCCH1-4

on to the DCH5 transport channel. Used for setting up stand-alone UL:13.6 DL:13.6 kbps SRBs

Default : SS\_Def

**Comments**: The transport channel DCH5 carries only dedicated control channels.

Description :

| Nr   | Label | Rehaviour Description                           | Constraints Ref   | Verdict | Comments   |
|------|-------|---|---|---------|--|
| 1 Nr | Label | Behaviour Description                           | Constraints Ker   | verdict | Comments   |
| 2    |       | + ts_SetTmpCellInfo ( p_CellId ) [px_RAT = fdd] |   |         |  |
| 3    |       | (tcv_TGCFN := 0)                                |   |         |  |
| 4    |       | CPHY!CPHY_RL_Modify_REQ                         | ca_DL_DPCH_ModifyInfo<br>(p_CellId, tsc_DL_DPCH1,<br>cb_DL_DPCH_SRB_Stand<br>AloneDPCH_Offset (<br>tcv_TmpCellInfo.dl_DPCH_<br>2ndScrCode),p_ActTime)                   |         | 1.   |
| 5    |       | CPHY?CPHY_RL_Modify_CNF                         | ca_RL_ModifyCnf (p_CellId, tsc_DL_DPCH1)  |         |  |
| 6    |       | CPHY!CPHY_TrCH_Config_REQ                       | ca_DCH_148_TTI_10_DL_I<br>nfo (p_CellId,<br>tsc_DL_DPCH1,p_ActTime)   |         | 2.   |
| 7    |       | CPHY?CPHY_TrCH_Config_CNF                       | ca_TrChCfgCnf(p_CellId, tsc_DL_DPCH1)   |         |  |
| 8    |       | CMAC ! CMAC_Config_REQ                          | ca_CMAC_ReconfigInfo(tsc<br>_CellDedicated,<br>tsc_DL_DPCH1,<br>c_UE_Info ( OMIT, OMIT ),<br>c_TrChInfoDL_13_6_Stand<br>Alone,<br>c_TrLogMappingDL_4DCC<br>H,p_ActTime) |         | 3.<br>C-RNTI<br>and<br>U-RNTI<br>are not<br>needed<br>on<br>DPCH |
| 9    |       | CMAC ? CMAC_Config_CNF                          | ca_CMAC_CfgCnf(tsc_Cell Dedicated, tsc_DL_DPCH1)  |         |  |
| 10   |       | CPHY!CPHY_RL_Modify_REQ                         | ca_UL_DPCH_ModifyInfo ( p_CellId, tsc_UL_DPCH1, c_UL_DPCH_13_6_StandA lone(tcv_TmpCellInfo.uL_Sc ramblingCode) ,p_ActTime)  |         | 1.   |
| 11   |       | CPHY?CPHY_RL_Modify_CNF                         | ca_RL_ModifyCnf (<br>p_CellId, tsc_UL_DPCH1)  |         |  |
| 12   |       | CPHY!CPHY_TrCH_Config_R<br>EQ                   | ca_DCH_148_TTI_10_UL_I<br>nfo (p_CellId,<br>tsc_UL_DPCH1,p_ActTime)   |         | 2.   |
| 13   |       | CPHY?CPHY_TrCH_Config_<br>CNF                   | ca_TrChCfgCnf(p_CellId, tsc_UL_DPCH1)   |         |  |
| 14   |       | CMAC !<br>CMAC_Config_REQ                       | ca_CMAC_ReconfigInfo(tsc<br>_CellDedicated,<br>tsc_UL_DPCH1,<br>c_UE_Info( OMIT, OMIT ),<br>c_TrChInfoUL_13_6_Stand<br>Alone,<br>c_TrLogMappingUL_4DCC<br>H,p_ActTime)  |         | 3.<br>C-RNTI<br>and<br>U-RNTI<br>are not<br>needed<br>on<br>DPCH |
| 15   |       | CMAC ?<br>CMAC_Config_CNF                       | ca_CMAC_CfgCnf(tsc_Cell Dedicated, tsc_UL_DPCH1)  |         |  |
| 16   | ERR1  | $[px\_RAT = tdd]$                               |   |         |  |

### Continued from previous page

|      | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |
|------|-----------------------------|---|-----------------|---------|----------|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |
| 17   | ERR2                        | [TRUE]  |                 | 1       |          |  |  |  |
| Deta | iled Com                    | ments: 1. configure physical channel DPCH1. 2. connect DCH5 to DPCH1. 3. map logical channels: DCCH1-4 to DCH5. |                 |         |          |  |  |  |

 $\begin{tabular}{ll} \textbf{Test Step Name} &: ts\_SS\_2DCH\_Modify (p\_CellId:INTEGER; p\_UL\_TrChConfig: CphyTrchConfigReq; p\_UL\_TrChInfo, p\_DL\_TrChInfo: TrCHInfo; \\ & p\_DL\_TrChInfo: TrCHInfo; \\ \end{tabular}$ 

p\_UL\_TrLogMapping, p\_DL\_TrLogMapping: TrCH\_LogCHMappingList1; p\_ActTime: ActivationTime; p\_DL\_DPCHInfo : DL\_DPCHInfo; p\_UL\_DPCH\_Info : UL\_DPCH\_Info)

Group : BasicM\_SS\_Configuration\_Steps/

: to modify physical channel DPCH1and connect DCH1and DCH5 to the physical channel, then map Objective

DCCH1-4 on to the DCH5 transport channel and map DTCH1 to the DCH1 transport channel. used

for RLC testing.

: SS\_Def Default

Comments : SS is in TM mode different from the mode of UE.

Transport channel configuration is parameter (of type: CphyTrchConfigReq); DPCH is 64 kbps

physical channel.

Description

| Nr | Label | Behaviour Description            | Constraints Ref   | Verdict | Comments   |
|----|-------|----------------------------------|---|---------|--|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId ) |   |         |  |
| 2  |       | $[px\_RAT = fdd]$                |   |         |  |
| 3  |       | CPHY!CPHY_RL_Modify_REQ          | ca_DL_DPCH_ModifyInfo ( p_CellId, tsc_DL_DPCH1, p_DL_DPCHInfo,p_ActTime )   |         | 1.   |
| 4  |       | CPHY?CPHY_RL_Modify_CNF          | ca_RL_ModifyCnf(p_CellId, tsc_DL_DPCH1)   |         |  |
| 5  |       | CPHY!CPHY_TrCH_Config_REQ        | ca_TrChCfgInfo(p_CellId,<br>tsc_DL_DPCH1,<br>c_TrChConfigTypeDCH_No<br>SHO, p_DL_TrChConfig)                                  |         | 3.   |
| 6  |       | CPHY?CPHY_TrCH_Config_CNF        | ca_TrChCfgCnf(p_CellId, tsc_DL_DPCH1)   |         |  |
| 7  |       | CMAC ! CMAC_Config_REQ           | ca_CMAC_ReconfigInfo( tsc_CellDedicated , tsc_DL_DPCH1, c_UE_Info( OMIT, OMIT ), p_DL_TrCHInfo, p_DL_TrLogMapping,p_Act Time) |         | 4.<br>U-RNTI<br>and<br>C-RNTI<br>are not<br>needed<br>on<br>DPCH |
| 8  |       | CMAC ? CMAC_Config_CNF           | ca_CMAC_CfgCnf(<br>tsc_CellDedicated ,<br>tsc_DL_DPCH1)   |         |  |
| 9  |       | CPHY!CPHY_RL_Modify_REQ          | ca_UL_DPCH_ModifyInfo(<br>p_CellId, tsc_UL_DPCH1,<br>p_UL_DPCH_Info,p_ActTi<br>me)  |         | 1.   |
| 10 |       | CPHY?CPHY_RL_Modify_CNF          | ca_RL_ModifyCnf(p_CellId, tsc_UL_DPCH1)   |         |  |
| 11 |       | CPHY!CPHY_TrCH_Config_RE<br>Q    | ca_TrChCfgInfo ( p_CellId, tsc_UL_DPCH1, c_TrChConfigTypeDCH_No SHO, p_UL_TrChConfig )  |         | 2.   |
| 12 |       | CPHY?CPHY_TrCH_Config_C<br>NF    | ca_TrChCfgCnf(p_CellId, tsc_UL_DPCH1)   |         |  |

|    | Test Step Dynamic Behaviour |                           |   |         |  |  |  |  |  |
|----|-----------------------------|---------------------------|---|---------|--|--|--|--|--|
| Nr | Label                       | Behaviour Description     | Constraints Ref   | Verdict | Comments   |  |  |  |  |
| 13 |                             | CMAC ! CMAC_Config_REQ    | ca_CMAC_ReconfigInfo( tsc_CellDedicated, tsc_UL_DPCH1, c_UE_Info(OMIT,OMIT), p_UL_TrCHInfo, p_UL_TrLogMapping,p_Act Time) |         | 4.<br>U-RNTI<br>and<br>C-RNTI<br>are not<br>needed<br>on<br>DPCH |  |  |  |  |
| 14 |                             | CMAC ?<br>CMAC_Config_CNF | ca_CMAC_CfgCnf(<br>tsc_CellDedicated ,<br>tsc_UL_DPCH1)   |         |  |  |  |  |  |
| 15 | ERR1                        | $[px\_RAT = tdd]$         |   | 1       |  |  |  |  |  |
| 16 | ERR2                        | [TRUE]                    |   | I       |  |  |  |  |  |

**Detailed Comments**: 1. configure DPCH1supporting 64 kspb data rate.

2. connect uplink DCH1 and DCH5 to DPCH1.

3. connect downlink DCH1and DCH5 to DPCH1.

4. map logical channels: DCCH1-4 to DCH5, DTCH1 to DCH1 for both uplink and downlink and

send relevant transport channel configuration information to MAC.

### **Test Step Dynamic Behaviour**

Test Step Name : ts\_SS\_AddDPCH ( p\_CellId : INTEGER )

Group : BasicM\_SS\_Configuration\_Steps/

**Objective**: To reconfigure the cell p\_CellId from cell\_NoDPCH to cell\_DCH\_StandaloneSRB\_NoConn.

Default : SS\_Def

**Comments**: The following channels need to be created:

physical channels: DPCH; transport channesl: DCH logical channels: DCCH; and

signalling radio bearer: signalling bearer RB1, RB2, RB3, RB4 on DCH.

Description :

| Nr | Label | Behaviour Description              | Constraints Ref | Verdict | Comments |
|----|-------|------------------------------------|-----------------|---------|----------|
| 1  |       | + ts_SS_1DCH_DCCH_Cfg ( p_CellId ) |                 |         |          |
| 2  |       | +ts_SS_RB1_ToRB4_Cfg               |                 |         |          |

**Detailed Comments:** 

Test Step Name : ts\_SS\_BCH\_SCH\_CPICH\_Cfg ( p\_Cellid : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : To configure P-CCPCH, P-SCH, S-SCH and P-CPICH physical channels. To map BCH to

P-PCCPCH, then to map logical channel BCCH to transport channel BCH.

Default : SS\_Def

Comments : To configre P-CCPCH, P-SCH, S-SCH and P-CPICH physical channels and map BCH to

P-PCCPCH, then to map logical channel BCCH to transport channel BCH.

Description :

| Nr   | Label    | Behaviour Description         | Constraints Ref  | Verdict | Comments  |
|------|----------|-------------------------------|--|---------|---|
| 1    |          | +ts_SetTmpCellInfo (p_CellId) |  |         |   |
| 2    |          | $[px\_RAT = fdd]$             |  |         |   |
| 3    |          | CPHY!CPHY_RL_Setup_REQ        | ca_pCPICH_Info ( p_CellId, (tcv_TmpCellInfo.powerpCP ICH) )  |         | p-CPIC<br>H   |
| 4    |          | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_P_CPICH )   |         |   |
| 5    |          | CPHY!CPHY_RL_Setup_REQ        | ca_pSCH_Info ( p_CellId, (tcv_TmpCellInfo.powerpSC H))   |         | p-SCH   |
| 6    |          | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_P_SCH )   |         |   |
| 7    |          | CPHY!CPHY_RL_Setup_REQ        | ca_sSCH_Info ( p_CellId, (tcv_TmpCellInfo.powersSC H) )  |         | s-SCH   |
| 8    |          | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_S_SCH )   |         |   |
| 9    |          | CPHY!CPHY_RL_Setup_REQ        | ca_pCCPCH_Info ( p_CellId, (tcv_TmpCellInfo.powerpC CPCH))   |         | p-CCP<br>CH   |
| 10   |          | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_P_CCPCH )   |         |   |
| 11   |          | CPHY!CPHY_TrCH_Config_RE<br>Q | ca_BCH_InfoActNow (<br>p_CellId )  |         | BCH<br>connect<br>ed to<br>p-CCP<br>CH                            |
| 12   |          | CPHY?CPHY_TrCH_Config_C<br>NF | ca_TrChCfgCnf ( p_CellId, tsc_P_CCPCH )  |         |   |
| 13   |          | CMAC!CMAC_Config_REQ          | ca_CMAC_CfgInfo(p_CellId<br>, tsc_P_CCPCH,<br>c_UE_Info ( OMIT, OMIT ) ,<br>c_TrChInfoBCH1,<br>c_TrLogMappingBCH1) |         | mapping BCCH to BCH. C-RNTI and U-RNTI are not needed on P-CCP CH |
| 14   |          | CMAC?CMAC_Config_CN<br>F      | ca_CMAC_CfgCnf (<br>p_CellId, tsc_P_CCPCH)   |         |   |
| 15   | ERR1     | $[px_RAT = tdd]$              |  | 1       |   |
| 16   | ERR2     | [TRUE]                        |  | 1       |   |
| Deta | iled Com | ments :                       |  |         |   |

Test Step Name : ts\_SS\_CellCfg (p\_CellId : INTEGER) Group : BasicM\_SS\_Configuration\_Steps/

: To setup the cell parameter in CPHY, if the cell 'p\_CellId' is the first one to be created, then CPHY shall be initialised using CHY\_INIT\_REquest ASP. Objective

Default : SS\_Def

Comments Description

| Nr | Label | Behaviour Description                                | Constraints Ref   | Verdict | Comments   |
|----|-------|--|---|---------|--|
| 1  |       | +ts_SetTmpCellInfo (p_CellId)                        |   |         | Fetch<br>table<br>correpo<br>nding to<br>the cell    |
| 2  | ERR   | [ tcv_TmpCellInfo.cellConfig <> cell_NotConfigured ] |   | I       | Fatal<br>error:<br>cell<br>already<br>configur<br>ed |
| 3  |       | [ tcv_TmpCellInfo.cellConfig = cell_NotConfigured]   |   |         | Cell not<br>yet<br>configur<br>ed                    |
| 4  |       | + lt_CellIsAlreadyStarted                            |   |         |  |
| 5  |       | $[px\_RAT = fdd]$                                    |   |         |  |
| 6  |       | CPHY!CPHY_Cell_Config_REQ                            | ca_CellCfgReq(p_CellId, tcv_TmpCellInfo.tCell, tcv_TmpCellInfo.frequencyIn fo, tcv_TmpCellInfo.priScrmCo de, tcv_TmpCellInfo.attenuation Level, tcv_TmpCellInfo.sfnOffset, tcv_TmpCellInfo.cellTxPowe rLevel) |         |  |
| 7  |       | CPHY?CPHY_Cell_Config_CNF                            | ca_CellCfgCnf(p_CellId)   |         |  |
| 8  |       | + ts_SaveCellInfo ( p_CellId )                       |   |         |  |
| 9  | ERR2  | $[px\_RAT = tdd]$                                    |   | 1       |  |
| 10 | ERR3  | [TRUE]   |   | I       |  |
|    |       | lt_CelllsAlreadyStarted                              |   |         |  |
| 11 |       | + ts_CountConfiguredCell                             |   |         |  |
| 12 |       | [ tcv_NumCfgCell = 0 ]                               |   |         | 1.   |
| 13 |       | +ts_MM_PwrOrUSIM_Off(tsc_USIM_NeedRm<br>v)           |   |         | 1.<br>Deactiva<br>te the<br>UE                       |
| 14 |       | [ tcv_DefaultRadioCnf = TRUE ]                       |   |         | 3.   |
| 15 |       | CPHY!CPHY_Ini_REQ                                    | cas_InitReqDef  |         |  |
| 16 |       | CPHY ? CPHY_Ini_CNF                                  | car_IniCnf  |         |  |
| 17 |       | ( tcv_TmpCellInfo.tCell := 0 )                       |   |         |  |
| 18 |       | [ tcv_DefaultRadioCnf = FALSE ]                      |   |         | 4.   |
| 19 |       | CPHY! CPHY_Ini_REQ                                   | cas_InitReqNonDef   |         |  |
| 20 |       | CPHY ? CPHY_Ini_CNF                                  | car_IniCnf  |         |  |
| 21 |       | ( tcv_TmpCellInfo.tCell := 0 )                       |   |         |  |

# Continued from previous page

|      | Test Step Dynamic Behaviour |   |                                  |         |          |  |  |  |  |
|------|-----------------------------|---|----------------------------------|---------|----------|--|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref                  | Verdict | Comments |  |  |  |  |
| 22   |                             | [ tcv_NumCfgCell <> 0 ]   |                                  |         | 2.       |  |  |  |  |
| Deta | iled Com                    | ments: 1. The cell 'p_CellId' is the first one to be created.  2. The cell 'p_CellId' is not the first one to be compared.  3. CPHY_Init_Request is sent with a defaultRance.  4. CPHY_Init_Request is sent with a nonDefaultRance. | created<br>adioEnvironment value |         |          |  |  |  |  |

Test Step Name : ts\_SS\_CreateCellDCH (p\_CellId : INTEGER)

Group : BasicM\_SS\_Configuration\_Steps/

Objective : This test Step sets up a cell with stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH which consists of

the following: For a first cell:

physical channels: p-SCH, s-SCH, p-CPICH, p-CCPCH, s-CCPCH, PRACH and DPCH;

transport channesl: BCH, FACH, PCH, RACH, DCH; logical channels: BCCH, CCCH, PCCH, DCCH; and

signalling radio bearer RB0 on FACH and RACH; signalling bearer RB1, RB2, RB3, RB4 on DCH.

For cells other than the first cell

physical channels: p-SCH, s-SCH, p-CPICH, p-CCPCH, s-CCPCH, PRACH (no DPCH)

transport channesl: BCH, FACH, PCH, RACH (no DCH) logical channels: BCCH, CCCH, PCCH (no DCCH)

signalling radio bearer RB0 on FACH and RACH (not RB1 RB2 RB3 RB4 on DCH)

Default : InitOtherwiseFail

Comments : Cell configuration supporting UL:3.4 DL:3.4 kbps stand–alone signalling RB.

CRLC is configured with cellId –1 (tsc\_CellDedicated)

CMAC for DCCH (MAC-d) is configured with cellId -1 (tsc\_CellDedicated).

Description

| Nr | Label | Behaviour Description                        | Constraints Ref | Verdict | Comments         |
|----|-------|--|-----------------|---------|------------------|
| 1  |       | +ts_SS_CellCfg(p_CellId)                     |                 |         |                  |
| 2  |       | +ts_SS_BCH_SCH_CPICH_Cfg(p_CellId)           |                 |         |                  |
| 3  |       | +ts_SS_PCH_FACH_CCCH_Cfg(p_CellId)           |                 |         |                  |
| 4  |       | +ts_SS_RACH_CCCH_Cfg(p_CellId)               |                 |         |                  |
| 5  |       | + ts_CountConfiguredCell                     |                 |         |                  |
| 6  |       | [ tcv_NumCfgCell = 0 ]                       |                 |         | First cell       |
|    |       |  |                 |         | to be<br>created |
| 7  |       | +ts_SS_1DCH_DCCH_Cfg(p_CellId)               |                 |         | oroatou          |
| 8  |       | +ts_SS_RB_BCCH_BCH_Cfg(p_CellI               |                 |         |                  |
|    |       | d)   |                 |         |                  |
| 9  |       | +ts_SS_RB_PCCH_Cfg(p_CellId)                 |                 |         |                  |
| 10 |       | +ts_SS_RB0_Cfg (p_CellId)                    |                 |         |                  |
| 11 |       | +ts_SS_RB1_ToRB4_Cfg                         |                 |         |                  |
| 12 |       | (  |                 |         |                  |
|    |       | tcv_TmpCellInfo.DL_DPCH_S<br>HO := TRUE,     |                 |         |                  |
|    |       | tcv_TmpCellInfo.UL_DPCH_S                    |                 |         |                  |
|    |       | HO := TRUE,<br>tcv_TmpCellInfo.cellConfig := |                 |         |                  |
|    |       | cell_DCH_StandAloneSRB_No                    |                 |         |                  |
|    |       | Conn )                                       |                 |         |                  |
| 13 |       | + ts_SaveCellInfo ( p_CellId )               |                 |         | 1.               |
| 14 |       | [ tcv_NumCfgCell <> 0 ]                      |                 |         | Next cell        |
|    |       |  |                 |         | to be<br>created |
| 15 |       | +  |                 |         | oroatoa          |
|    |       | ts_SS_RB_BCCH_BCH_Cfg(p_CellId)              |                 |         |                  |
| 16 |       | + ts_SS_RB_PCCH_Cfg(p_CellId)                |                 |         |                  |
| 17 |       | + ts_SS_RB0_Cfg(p_CellId)                    |                 |         |                  |
| 18 |       | + ts_SetCellCfg ( p_CellId, cell_NoDPCH)     |                 |         | 1.               |

Detailed Comments: 1. Set the cell configuration in the CellInfoCfg record

Test Step Name : ts\_SS\_PCH\_FACH\_CCCH\_Cfg ( p\_CellId : INTEGER )

Group : BasicM\_SS\_Configuration\_Steps/

: To configure a secondary CCPCH ( tsc\_S\_CCPCH1), then connect PCH and FACH to the secondary CCPCH .(34.108 cl. 4.2.1), finally to map PCCH to PCH and CCCH to FACH. Objective

Default : SS\_Def

Comments Description

| Nr    | Label   | Behaviour Description         | Constraints Ref  | Verdict | Comments   |
|-------|---------|-------------------------------|--|---------|--|
| 1     |         | +ts_SetTmpCellInfo (p_CellId) | 2  |         |  |
| 2     |         | [px_RAT = fdd]                |  |         |  |
| 3     |         | CPHY!CPHY_RL_Setup_REQ        | ca_sCCPCH_Info(p_CellId, tsc_S_CCPCH1, tsc_S_CCPCH1, tsc_S_CCPCH_2ndScrCod e, tsc_S_CCPCH1_ChC, tcv_TmpCellInfo.slotFormat sCCPCH1, (tcv_TmpCellInfo.powersCC PCH1), tcv_TmpCellInfo.timingsCC PCH1) |         | s-CCP<br>CH1   |
| 4     |         | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf(p_CellId, tsc_S_CCPCH1)   |         |  |
| 5     |         | CPHY!CPHY_TrCH_Config_REQ     | ca_PCH_2_FACH_InfoAct<br>Now ( p_CellId,<br>tsc_S_CCPCH1)  |         | connect<br>PCH<br>and<br>FACH<br>to<br>s-CCP<br>CH1                |
| 6     |         | CPHY ? CPHY_TrCH_Config_CNF   | ca_TrChCfgCnf(p_CellId, tsc_S_CCPCH1)  |         |  |
| 7     |         | CMAC ! CMAC_Config_REQ        | ca_CMAC_CfgInfo ( p_CellId, tsc_S_CCPCH1, c_UE_Info ( OMIT, OMIT ), c_TrChInfoPCH_FACH, c_TrLogMappingPCH_FAC H_CellDCH )  |         | map PCCH to PCH.  U-RNTI and C-RNTI are not needed (no DCCH/ DTCH) |
| 8     |         | CMAC ? CMAC_Config_CNF        | ca_CMAC_CfgCnf(p_CellId<br>, tsc_S_CCPCH1)   |         |  |
| 9     |         | CPHY!CPHY_RL_Setup_REQ        | ca_PICH_Info(p_CellId,<br>c_PichInfo,<br>(tcv_TmpCellInfo.powerPIC<br>H),tsc_S_CCPCH1)   |         | PICH   |
| 10    |         | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf(p_CellId, tsc_PICH1)  |         |  |
| 11    | ERR1    | $[px\_RAT = tdd]$             |  | I       |  |
| 12    | ERR2    | [TRUE]                        |  | I       |  |
| Detai | led Com | ments :                       |  |         |  |

Test Step Name : ts\_SS\_PrepareCellRRC\_ConnEst (

p\_CellId: INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : To reconfigure the cell if it is not ready for an RRC connection establishment.

4 cases are handled:

1> the cell is already configure ( cell\_DCH\_StandAloneSRB\_NoConn OR cell\_FACH\_NoConn OR

cell\_FACH\_BMC\_NoConn OR cell\_FACH\_2PRACH\_NoConn OR

cell\_FACH\_2\_SCCPCH\_NoConn)

2> the cell is configured to cell\_NoDPCH, then remove the DPCH from the 'old' cell and configure

the DPCH in the cell p\_CellId

3> the cell is configured to cell\_FACH\_NoDedicated , then reconfigure the old cell where the 4> the configuration of the cell to not allow an RRC connection establishment -> error case

Default : SS\_Def

Comments : Description :

| Nr  | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|-----|-------|---|-----------------|---------|----------|
| 1   |       | + ts_SetTmpCellInfo ( p_CellId )  |                 |         |          |
| 1 2 |       | + ts_SetImpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_PACH_3_SCCPCH_4_FACH_Cnfg1_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_CTCH_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_4_FACH_CAL_2A_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_NoConn)] |                 |         | 0        |

|    |       | Test Step Dynamic B   | Behaviour       |         |                          |
|----|-------|---|-----------------|---------|--------------------------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments                 |
| 3  |       | [(tcv_TmpCellInfo.cellConfig = cell_NoDPCH) OR (tcv_CellInfoA.cellConfig = cell_DCH_Speech) OR (tcv_CellInfoA.cellConfig = cell_DCH_64kCS_RAB_SRB) OR (tcv_CellInfoA.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR (tcv_CellInfoA.cellConfig = cell_DCH_64kPS_RAB_SRB)] |                 |         | 1                        |
| 4  |       | + It_ReconfOldDPCH_Cell   |                 |         |                          |
| 5  |       | + ts_SS_AddDPCH( p_CellId )   |                 |         |                          |
| 6  |       | ( tcv_TmpCellInfo.cellConfig := cell_DCH_StandAloneSRB_NoConn, tcv_TmpCellInfo.DL_DPCH_SHO := TRUE, tcv_TmpCellInfo.UL_DPCH_SHO := TRUE   |                 |         |                          |
| 7  |       | + ts_SaveCellInfo ( p_CellId )  |                 |         |                          |
| 8  |       | [ tcv_TmpCellInfo.cellConfig = cell_FACH_NoDedicated ]  |                 |         | 2                        |
| 9  |       | + It_ReconfOldFACH_Cell   |                 |         |                          |
| 10 |       | + ts_SS_ReconfNoDedicatedToCellFACH ( p_CellId)   |                 |         |                          |
| 11 |       | + ts_SetCellCfg ( p_CellId, cell_FACH_NoConn )  |                 |         |                          |
| 12 | ERR   | [TRUE]  |                 | I       | Program<br>ming<br>error |
|    |       | lt_ReconfOldFACH_Cell   |                 |         |                          |
| 13 |       | [ ( tcv_CellInfoA.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoA.cellConfig = cell_FACH) OR<br>( tcv_CellInfoA.cellConfig = cell_FACH_PS) ]   |                 |         |                          |
| 14 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellA )   |                 |         |                          |
| 15 |       | ( tcv_CellInfoA.cellConfig := cell_FACH_NoDedicated )   |                 |         |                          |
| 16 |       | [ ( tcv_CellInfoB.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoB.cellConfig = cell_FACH) OR<br>( tcv_CellInfoB.cellConfig = cell_FACH_PS ) ]  |                 |         |                          |
| 17 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellB )   |                 |         |                          |
| 18 |       | ( tcv_CellInfoB.cellConfig := cell_FACH_NoDedicated )   |                 |         |                          |
| 19 |       | [ ( tcv_CellInfoC.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoC.cellConfig = cell_FACH) OR<br>( tcv_CellInfoC.cellConfig = cell_FACH_PS ) ]  |                 |         |                          |
| 20 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellC   |                 |         |                          |
| 21 |       | ( tcv_CellInfoC.cellConfig := cell_FACH_NoDedicated )   |                 |         |                          |

|    |       | Test Step Dynamic  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 22 |       | [ ( tcv_CellInfoD.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoD.cellConfig = cell_FACH) OR<br>( tcv_CellInfoD.cellConfig = cell_FACH_PS ) ] |                 |         |          |
| 23 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellD )  |                 |         |          |
| 24 |       | ( tcv_CellInfoD.cellConfig := cell_FACH_NoDedicated )  |                 |         |          |
| 25 |       | [ ( tcv_CellInfoE.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoE.cellConfig = cell_FACH) OR<br>( tcv_CellInfoE.cellConfig = cell_FACH_PS) ]  |                 |         |          |
| 26 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellE )  |                 |         |          |
| 27 |       | ( tcv_CellInfoE.cellConfig := cell_FACH_NoDedicated )  |                 |         |          |
| 28 |       | [ ( tcv_CellInfoF.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoF.cellConfig = cell_FACH) OR<br>( tcv_CellInfoF.cellConfig = cell_FACH_PS ) ] |                 |         |          |
| 29 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellF )  |                 |         |          |
| 30 |       | ( tcv_CellInfoF.cellConfig := cell_FACH_NoDedicated )  |                 |         |          |
| 31 |       | [ ( tcv_CellInfoG.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoG.cellConfig = cell_FACH) OR<br>( tcv_CellInfoG.cellConfig = cell_FACH_PS ) ] |                 |         |          |
| 32 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellG )  |                 |         |          |
| 33 |       | ( tcv_CellInfoG.cellConfig := cell_FACH_NoDedicated )  |                 |         |          |
| 34 |       | [ ( tcv_CellInfoH.cellConfig = cell_FACH_NoConn<br>) OR<br>( tcv_CellInfoH.cellConfig = cell_FACH) OR<br>( tcv_CellInfoH.cellConfig = cell_FACH_PS ) ] |                 |         |          |
| 35 |       | + ts_ReconfigFACH_ToNoDedicated ( tsc_CellH )  |                 |         |          |
| 36 |       | ( tcv_CellInfoH.cellConfig := cell_FACH_NoDedicated )  |                 |         |          |
| 37 | ERR1  | [TRUE]   |                 | ı       |          |
|    |       | lt_ReconfOldDPCH_Cell  |                 |         |          |

|          |       | Test Step Dynamic I   | 3ehaviour       |         |          |
|----------|-------|---|-----------------|---------|----------|
| Nr       | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 38       |       | [ (tcv_CellInfoA.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR (tcv_CellInfoA.cellConfig = cell_DCH_StandAloneSRB) OR (tcv_CellInfoA.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoA.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoA.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_CellInfoA.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR (tcv_CellInfoA.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoA.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoA.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR (tcv_CellInfoA.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR (tcv_CellInfoA.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_CellInfoA.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR (tcv_CellInfoA.cellConfig = cell_PDCP_AM_RAB ) OR (tcv_CellInfoA.cellConfig = cell_PDCP_AM_RAB ) OR (tcv_CellInfoA.cellConfig = cell_PDCP_UM_RAB ) OR   |                 |         |          |
|          |       | ( tcv_CellInfoA.cellConfig =  |                 |         |          |
| 20       |       | cell_PDCP_AM_UM_RAB)]   |                 |         |          |
| 39<br>40 |       | + ts_SS_ReIDPCH ( tsc_CellA )  ( tcv_CellInfoA.cellConfig := cell_NoDPCH,     tcv_CellInfoA.DL_DPCH_SHO := FALSE,     tcv_CellInfoA.UL_DPCH_SHO := FALSE )  |                 |         |          |
| 41       |       | [ ( tcv_CellInfoB.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_StandAloneSRB) OR ( tcv_CellInfoB.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoB.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoB.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_CellInfoB.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoB.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoB.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_CellInfoB.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoB.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoB.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoB.cellConfig = cell_PDCP_AM_UM_RAB ) ] |                 |         |          |
| 42<br>43 |       | + ts_SS_ReIDPCH ( tsc_CellB ) ( tcv_CellInfoB.cellConfig := cell_NoDPCH , tcv_CellInfoB.DL_DPCH_SHO := FALSE, tcv_CellInfoB.UL_DPCH_SHO := FALSE)   |                 |         |          |

|          |       | Test Step Dynamic E  | Behaviour       |         |          |
|----------|-------|--|-----------------|---------|----------|
| Nr       | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 44       |       | [ ( tcv_CellInfoC.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_StandAloneSRB) OR ( tcv_CellInfoC.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoC.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoC.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_CellInfoC.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoC.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoC.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoC.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_CellInfoC.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoC.cellConfig = c |                 |         |          |
|          |       | cell_PDCP_AM_UM_RAB ) ]  |                 |         |          |
| 45       |       | + ts_SS_ReIDPCH ( tsc_CellC )  |                 |         |          |
| 46       |       | ( tcv_CellInfoC.cellConfig := cell_NoDPCH,<br>tcv_CellInfoC.DL_DPCH_SHO := FALSE,<br>tcv_CellInfoC.UL_DPCH_SHO := FALSE)   |                 |         |          |
| 47       |       | [ ( tcv_CellInfoD.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_StandAloneSRB) OR ( tcv_CellInfoD.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoD.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoD.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_CellInfoD.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoD.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoD.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoD.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_CellInfoD.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoD.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoD.cellConfig = cell_PDCP_AM_UM_RAB ) ]   |                 |         |          |
| 48<br>49 |       | + ts_SS_ReIDPCH ( tsc_CellD )  ( tcv_CellInfoD.cellConfig := cell_NoDPCH, tcv_CellInfoD.DL_DPCH_SHO := FALSE, tcv_CellInfoD.UL_DPCH_SHO := FALSE )   |                 |         |          |

|          |       | Test Step Dynamic   | Behaviour       |         |          |
|----------|-------|---|-----------------|---------|----------|
| Nr       | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 50       |       | [ (tcv_CellInfoE.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR (tcv_CellInfoE.cellConfig = cell_DCH_StandAloneSRB) OR (tcv_CellInfoE.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoE.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoE.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_CellInfoE.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR (tcv_CellInfoE.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoE.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoE.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR (tcv_CellInfoE.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_CellInfoE.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_CellInfoE.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR (tcv_CellInfoE.cellConfig = cell_PDCP_AM_RAB ) OR (tcv_CellInfoE.cellConfig = cell_PDCP_UM_RAB ) |                 |         |          |
|          |       | cell_PDCP_AM_UM_RAB)]   |                 |         |          |
| 51       |       | + ts_SS_ReIDPCH ( tsc_CellE )   |                 |         |          |
| 52       |       | ( tcv_CellInfoE.cellConfig := cell_NoDPCH,<br>tcv_CellInfoE.DL_DPCH_SHO := FALSE,<br>tcv_CellInfoE.UL_DPCH_SHO := FALSE)  |                 |         |          |
| 53       |       | [ (tcv_CellInfoF.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR (tcv_CellInfoF.cellConfig = cell_DCH_StandAloneSRB) OR (tcv_CellInfoF.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoF.cellConfig = cell_DCH_Speech ) OR (tcv_CellInfoF.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR (tcv_CellInfoF.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR (tcv_CellInfoF.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoF.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR (tcv_CellInfoF.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR (tcv_CellInfoF.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_CellInfoF.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR (tcv_CellInfoF.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR (tcv_CellInfoF.cellConfig = cell_PDCP_AM_RAB ) OR (tcv_CellInfoF.cellConfig = cell_PDCP_UM_RAB ) OR (tcv_CellInfoF.cellConfig = cell_PDCP_UM_RAB ) OR (tcv_CellInfoF.cellConfig = cell_PDCP_AM_UM_RAB )]   |                 |         |          |
| 54<br>55 |       | + ts_SS_ReIDPCH (tsc_CellF)  (tcv_CellInfoF.cellConfig := cell_NoDPCH, tcv_CellInfoF.DL_DPCH_SHO := FALSE, tcv_CellInfoF.UL_DPCH_SHO := FALSE)  |                 |         |          |

|          |       | Test Step Dynamic   | Behaviour       |         |          |
|----------|-------|---|-----------------|---------|----------|
| Nr       | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 56       |       | [ ( tcv_CellInfoG.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_StandAloneSRB) OR ( tcv_CellInfoG.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoG.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoG.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_CellInfoG.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoG.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoG.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoG.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_CellInfoG.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoG.cellConfig = |                 |         |          |
| 57       |       | cell_PDCP_AM_UM_RAB)]   |                 |         |          |
| 57<br>58 |       | + ts_SS_ReIDPCH ( tsc_CellG )  ( tcv_CellInfoG.cellConfig := cell_NoDPCH, tcv_CellInfoG.DL_DPCH_SHO := FALSE, tcv_CellInfoG.UL_DPCH_SHO := FALSE )  |                 |         |          |
| 59       |       | [ ( tcv_CellInfoH.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_StandAloneSRB) OR ( tcv_CellInfoH.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_Speech ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoH.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_CellInfoH.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_CellInfoH.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoH.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_CellInfoH.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) OR ( tcv_CellInfoH.cellConfig = cell_PDCP_AM_RAB ) OR ( tcv_CellInfoH.cellConfig = cell_PDCP_UM_RAB ) OR ( tcv_CellInfoH.cellConfig = cell_PDCP_AM_UM_RAB ) OR ( tcv_CellInfoH.cellConfig = cell_PDCP_AM_UM_RAB ) ]   |                 |         |          |
| 60<br>61 |       | + ts_SS_ReIDPCH ( tsc_CellH )  ( tcv_CellInfoH.cellConfig := cell_NoDPCH, tcv_CellInfoH.DL_DPCH_SHO := FALSE, tcv_CellInfoH.UL_DPCH_SHO := FALSE)   |                 |         |          |

## Continued from previous page

|      | Test Step Dynamic Behaviour |   |  |                |          |  |  |  |  |
|------|-----------------------------|---|--|----------------|----------|--|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref  | Verdict        | Comments |  |  |  |  |
| 62   |                             | [TRUE]  |  |                |          |  |  |  |  |
| Deta | iled Com                    | ments: 0. No reconfiguration of the cell is needed befine the cell p_CellId to cell_DCH_standAloneSRB_NoConn to 2. Reconfigure the cell p_CellId to cell_FACH_cell_FACH_NoConn to cell_FACH_NoDedication. | StandAloneSRB_NoConn and re<br>cell_NoDPCH<br>_NoConn and reconfigure the ce | econfigure the | cell     |  |  |  |  |

Test Step Name : ts\_SS\_RACH\_CCCH\_Cfg ( p\_CellId : INTEGER )

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : To configure AICH and PRACH physical channels and connect RACH onto PRACH, then map one

logical channel (CCCH) to RACH

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description         | Constraints Ref  | Verdict | Comment   |
|----|-------|-------------------------------|--|---------|---|
| 1  |       | +ts_SetTmpCellInfo (p_CellId) |  |         |   |
| 2  |       | [px_RAT = fdd]                |  |         |   |
| 3  |       | CPHY!CPHY_RL_Setup_REQ        | ca_AichInfo ( p_CellId,<br>tsc_AICH1, c_AICH_Info,<br>tcv_TmpCellInfo.powerAIC<br>H )  |         | AICH  |
| 4  |       | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_AICH1)  |         |   |
| 5  |       | CPHY!CPHY_RL_Setup_REQ        | ca_PRACH_Info ( p_CellId, tsc_PRACH1, tsc_PRACH1_Signatures, tsc_PRACH1_ScrC, tcv_TmpCellInfo.puncLimit, tcv_TmpCellInfo.sf_PRACH, tcv_SubChNum) |         | PRACH   |
| 6  |       | CPHY?CPHY_RL_Setup_CNF        | ca_RL_SetupCnf ( p_CellId, tsc_PRACH1)   |         |   |
| 7  |       | CPHY!CPHY_TrCH_Config_REQ     | cab_RACH_InfoActNow (<br>p_CellId, tsc_PRACH1)   |         | connect<br>RACH<br>to<br>PRACH                            |
| 8  |       | CPHY?CPHY_TrCH_Config_CNF     | ca_TrChCfgCnf ( p_CellId, tsc_PRACH1)  |         |   |
| 9  |       | CMAC ! CMAC_Config_REQ        | ca_CMAC_CfgInfo ( p_CellId, tsc_PRACH1, c_UE_Info ( OMIT, OMIT), cb_TrChInfoRACH1, cb_TrLogMappingRACH2 )  |         | mapping CCCH to RACH. C-RNTI and U-RNTI are not needed on |
| 10 |       | CMAC ? CMAC_Config_CNF        | ca_CMAC_CfgCnf (<br>p_CellId, tsc_PRACH1)  |         |   |
| 11 | ERR1  | [px_RAT = tdd]                | ,  | ı       |   |
| 12 | ERR2  | TRUE]                         |  | 1.      |   |

Test Step Name : ts\_SS\_RB0\_Cfg( p\_CellId : INTEGER)
Group : BasicM\_SS\_Configuration\_Steps/

Objective : to setup radio bearers : RB0 ( the downlink is UM + CCCH + FACH + sCCPCH1 and uplink is TM +

CCCH + RACH + PRACH). The configuration is adapted from 34.108 cl. 6.10.2.4.3 and 6.10.2.4.4

Default : SS\_Def

Comments : Description :

| Nr   | Label    | Behaviour Description  | Constraints Ref   | Verdict | Comments   |
|------|----------|------------------------|---|---------|--|
| 1    |          | CRLC ! CRLC_Config_REQ | ca_RB_UM_DL_Info(p_Cell Id, tsc_RB0, { dLlogicalChannelIdentity tsc_DL_CCCH5})              |         | cofigure radio bearers (downlin k): RB0 (UM + CCCH + FACH)                   |
| 2    |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf(p_CellId, tsc_RB0)   |         |  |
| 3    |          | CRLC! CRLC_Config_REQ  | ca_RB_TM_UL_Info(p_CellI<br>d, tsc_RB0, 166,<br>{uLlogicalChannelIdentity<br>tsc_UL_CCCH5}) |         | cofigure<br>radio<br>bearers<br>(uplink):<br>RB0 (TM<br>+ CCCH<br>+<br>RACH) |
| 4    |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf(p_CellId, tsc_RB0)   |         |  |
| Deta | iled Com | ments :                | •   |         | •  |

Test Step Name : ts\_SS\_RB1\_ToRB4\_Cfg

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : To setup radio bearers : RB1, RB2, RB3, RB4. default values from 34.123-1

Default : SS\_Def

Comments : CRLC is configured with cellId -1 (tsc\_CellDedicated)

Description :

| Nr    | Label    | Behaviour Description  | Constraints Ref   | Verdict | Comments   |
|-------|----------|------------------------|---|---------|--|
| 1     |          | CRLC ! CRLC_Config_REQ | ca_RB_UM_Info ( tsc_CellDedicated , tsc_RB1, {uLlogicalChannelIdentity tsc_UL_DCCH1, dLlogicalChannelIdentity tsc_DL_DCCH1})  |         | cofigure radio bearers:  RB1 (UM + DCCH) and (UM +       |
| 2     |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf ( tsc_CellDedicated, tsc_RB1)  |         | DCCH)  |
| 3     |          | CRLC! CRLC_Config_REQ  | ca_RB_AM_Info_SRB ( tsc_CellDedicated, tsc_RB2, tcv_TimerPollProhibit, tcv_TimerPoll, tcv_PollSDU, tcv_PollWindow, {uLlogicalChannelIdentity tsc_UL_DCCH2, dLlogicalChannelIdentity tsc_DL_DCCH2}, 128) |         | cofigure radio bearers:  RB2 (AM + DCCH) and (AM + DCCH) |
| 4     |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf (<br>tsc_CellDedicated,<br>tsc_RB2)  |         |  |
| 5     |          | CRLC ! CRLC_Config_REQ | ca_RB_AM_Info_SRB ( tsc_CellDedicated, tsc_RB3, tcv_TimerPollProhibit, tcv_TimerPoll, tcv_PollSDU, tcv_PollWindow, {uLlogicalChannelIdentity tsc_UL_DCCH3, dLlogicalChannelIdentity tsc_DL_DCCH3},128)  |         | cofigure radio bearers:  RB3 (AM + DCCH) and (AM + DCCH) |
| 6     |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf ( tsc_CellDedicated, tsc_RB3)  |         |  |
| 7     |          | CRLC! CRLC_Config_REQ  | ca_RB_AM_Info_SRB ( tsc_CellDedicated, tsc_RB4, tcv_TimerPollProhibit, tcv_TimerPoll, tcv_PollSDU, tcv_PollWindow, {uLlogicalChannelIdentity tsc_UL_DCCH4, dLlogicalChannelIdentity tsc_DL_DCCH4},128)  |         | cofigure radio bearers:  RB4(AM + DCCH) and (AM + DCCH)  |
| 8     |          | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf (<br>tsc_CellDedicated, tsc_RB4)   |         |  |
| Detai | iled Com | iments:                |   |         |  |

**Test Step Name**: ts\_SS\_RB\_BCCH\_BCH\_Cfg(p\_CellId: INTEGER)

**Group**: BasicM\_SS\_Configuration\_Steps/

Objective : to setup the radio bearer (RB\_BCCH) which is used for sending system information blocks.

Default : SS\_Def

Comments : Description :

| Nr   | Label               | Behaviour Description | Constraints Ref  | Verdict | Comments  |  |  |  |
|------|---------------------|-----------------------|--|---------|---|--|--|--|
| 1    |                     | CRLC!CRLC_Config_REQ  | ca_RB_BCCH_Info(p_CellI<br>d, tsc_RB_BCCH,<br>{dLlogicalChannelIdentity<br>tsc_BCCH1}) |         | configur e radio bearer (RB_BC CH) for BCCH on TM + BCCH + BCH, used for sending system informati on blocks |  |  |  |
| 2    |                     | CRLC?CRLC_Config_CNF  | ca_CRLC_CfgCnf(p_CellId, tsc_RB_BCCH)  |         |   |  |  |  |
| Deta | Detailed Comments : |                       |  |         |   |  |  |  |

# **Test Step Dynamic Behaviour**

Test Step Name: ts\_SS\_RB\_BCCH\_FACH\_Cfg (p\_CellId: INTEGER)

Group : BasicM\_SS\_Configuration\_Steps/

Objective : setup radio bearers : RB9 (downlink only) this bearer is for BCCH-FACH (TM + BCCH + FACH +

sCCPCH1). The configuration is adapted from 34.108 cl. 6.10.2.4.3.

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments   |
|----|-------|------------------------|--|---------|--|
| 1  |       | CRLC ! CRLC_Config_REQ | ca_RB_TM_DL_InfoNoSeg<br>(p_CellId,<br>tsc_RB_BCCH_FACH,<br>166,<br>{dLlogicalChannelIdentity<br>tsc_BCCH6}) |         | configur<br>e radio<br>bearers<br>(downlin<br>k):<br>RB9 (TM<br>+ BCCH<br>+<br>FACH) |
| 2  |       | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf(p_CellId, tsc_RB_BCCH_FACH)   |         |  |

**Detailed Comments:** 

 $\textbf{Test Step Name} \quad : \ ts\_SS\_RB\_PCCH\_Cfg(p\_CellId: \ INTEGER)$ 

**Group** : BasicM\_SS\_Configuration\_Steps/

Objective : to setup radio bearer (RB\_PCCH) used for paging message sending

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments   |
|----|-------|------------------------|---|---------|--|
| 1  |       | CRLC ! CRLC_Config_REQ | ca_RB_PCCH_Info(p_CellI d, tsc_RB_PCCH, {dLlogicalChannelIdentity tsc_PCCH1}) |         | configur e radio bearer(R B_PCC H) on TM + PCCH + PCH, used for sending paging message |
| 2  |       | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf(p_CellId, tsc_RB_PCCH)   |         |  |

**Detailed Comments:** 

Test Step Name: ts\_SS\_RB\_TM\_Cfg\_RLC (p\_PayLoad: INTEGER; p\_RB\_Identity: SS\_RB\_Identity)

Group : BasicM\_SS\_Configuration\_Steps/

Objective :

Default : InitOtherwiseFail

Comments : Configure TM RLC entity in SS for RLC testing. The given RB identity can be used by the SS decoder

to determine which RLC mode is being simulated.

The UE entity should be configured as an AM or UM entity using the same transport block size. This

allows the RLC header information to be specified and / or inspected by the TTCN.

DL Logical channel mapping list for RLC tests. The DTCH RAB for RLC testing is mapped to DCH1.

The SRBs are mapped to DCH5.

**Parameters** 

p\_CellId:

The cell to be used to configure the new RLC entity.

p Payload

The TM payload size in bits. This should be equal to the simulated AM or UM payload size, plus the

relevant RLC header size.

p\_RB\_Identity:

The RB Id to be used within the SS. Different values can be used by the SS decoder to determine

which RLC mode is being simulated.

Expected values:

-10 => UM7

-11 => UM15

-12 => AM7

-13 => AM15

CRLC is configured with cellId -1 (tsc\_CellDedicated)

#### Description

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|------------------------|--|---------|----------|
| 1  |       | CRLC ! CRLC_Config_REQ | ca_RB_TM_Info( tsc_CellDedicated, p_RB_Identity, p_PayLoad, {     uLlogicalChannelIdentity tsc_UL_DTCH1,     dLlogicalChannelIdentity tsc_DL_DTCH1 } ) |         |          |
| 2  |       | CRLC ? CRLC_Config_CNF | ca_CRLC_CfgCnf( tsc_CellDedicated, p_RB_Identity )   |         |          |

Detailed Comments :

 $\textbf{Test Step Name} \hspace{0.2cm} : \hspace{0.1cm} ts\_SS\_ReconfigRAB\_ToSRB \hspace{0.1cm} (\hspace{0.1cm} p\_CellId: \hspace{0.1cm} INTEGER \hspace{0.1cm} )$ 

**Group**: BasicM\_SS\_Configuration\_Steps/

**Objective**: To reconfigure SS from a configuration including RABS to cell\_DCH.

Default : SS\_Def

Comments : Description :

| ı | Nr | Label | Behaviour Description              | Constraints Ref | Verdict | Comments |
|---|----|-------|------------------------------------|-----------------|---------|----------|
| I | 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |          |
|   | 2  |       | + ts_SS_ReIDPCH ( p_CellId )       |                 |         |          |
|   | 3  |       | + ts_SS_1DCH_DCCH_Cfg ( p_CellId ) |                 |         |          |
|   | 4  |       | + ts_SS_RB1_ToRB4_Cfg              |                 |         |          |
| ı |    |       |                                    |                 |         |          |

**Detailed Comments:** 

 $\textbf{Test Step Name} \quad : \ ts\_SS\_ReconfNoDedicatedToCellFACH \ ( \ p\_CellId : INTEGER \ )$ 

**Group**: BasicM\_SS\_Configuration\_Steps/

**Objective**: To reconfig the cell from cell\_FACH\_NoDedicated to cell\_FACH.

Default : SS\_Def

Comments : Description :

| Nr   | Label    | Behaviour Description                                  | Constraints Ref  | Verdict | Comments   |
|------|----------|--|--|---------|--|
| 1    |          | + ts_SetTmpCellInfo ( p_CellId )                       |  |         |  |
| 2    |          | $[px\_RAT = fdd]$                                      |  |         |  |
| 3    |          | CMAC ! CMAC_Config_REQ                                 | ca_CMAC_ReconfigInfoAct Now (p_CellId, tsc_S_CCPCH1, c_UE_Info( tcv_TmpCellInfo.uRNTI, tcv_TmpCellInfo.cRNTI), c_TrChInfoPCH_FACH_PS , c_TrLogMappingPCH_FAC H_PS) |         | map PCCH to PCH, and map CCCH, BCCH, DTCH and DCCH's to FACH |
| 4    |          | CMAC ? CMAC_Config_CNF                                 | ca_CMAC_CfgCnf(p_CellId<br>, tsc_S_CCPCH1)   |         |  |
| 5    |          | CMAC ! CMAC_Config_REQ                                 | ca_CMAC_ReconfigInfoAct Now (p_CellId, tsc_PRACH1, c_UE_Info(OMIT, tcv_TmpCellInfo.cRNTI), cb_TrChInfoRACH1, c_TrLogMappingRACH_DT CH )                            |         | CCCH,<br>DCCH1,<br>DCCH2,<br>DCCH3,<br>DCCH4<br>to<br>RACH   |
| 6    |          | CMAC ? CMAC_Config_CNF                                 | ca_CMAC_CfgCnf(p_CellId<br>, tsc_PRACH1)   |         |  |
| 7    |          | + lt_RB_BCCH_FACH_Cfg                                  |  |         |  |
| 8    | ERR1     | $[px_RAT = tdd]$                                       |  | 1       |  |
| 9    | ERR2     | [TRUE]   |  | 1       |  |
|      |          | lt_RB_BCCH_FACH_Cfg                                    |  |         |  |
| 10   |          | [ tcv_TmpCellInfo.cellConfig = cell_FACH_NoDedicated ] |  |         |  |
| 11   |          | +ts_SS_RB_BCCH_FACH_Cfg(p_CellId)                      |  |         | Config<br>BCCH<br>on<br>FACH                                 |
| 12   |          | [TRUE]   |  |         |  |
| Deta | iled Com | ments :  |  |         |  |

Test Step Name : ts\_SS\_Rel (p\_CellId:INTEGER)
Group : BasicM\_SS\_Configuration\_Steps/

**Objective**: To release all channels that are configured in the SS.

Default : SS\_Def

Comments : Description :

| Nr     | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|--------|-------|---|-----------------|---------|----------|
| 1      |       | + ts_SetTmpCellInfo ( p_CellId )  |                 |         |          |
| 1 2    |       | + ts_SetTmpCellInfo.cellConfig = cell_DCH_StandAloneSRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_Speech) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis) OR (tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call) OR (tcv_TmpCellInfo.cellConfig = cell_DCH_2PS_Call) OR |                 |         |          |
|        |       | ( tcv_TmpCellInfo.cellConfig =  |                 |         |          |
|        |       | cell_DCH_MAC_SRB_NoConn)]   |                 |         |          |
| 3      |       | + ts_SS_ReIDPCH ( p_CellId )  |                 |         | 1.       |
| 4      |       | + It_ReleaseCommonCh  |                 |         |          |
| 5<br>6 |       | + It_Release_BCCH   |                 |         |          |
| 7      |       | [ ( tcv_TmpCellInfo.cellConfig = cell_NoDPCH ) ]  |                 |         |          |
| 8      |       | + It_ReleaseCommonCh  |                 |         |          |
| 9      |       | + It_Release_BCCH   |                 |         |          |
| 10     |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )  |                 |         |          |
| 11     |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_PS ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoConn ) ]  |                 |         |          |
| 12     |       | + lt_RelSRB1_4  |                 |         |          |

|    |       | Test Step Dynamic   | Behaviour       |         |          |
|----|-------|---|-----------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 13 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )   |                 |         |          |
| 14 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 15 |       | + lt_ReleaseCommonCh  |                 |         |          |
| 16 |       | + lt_Release_BCCH   |                 |         |          |
| 17 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )  |                 |         |          |
| 18 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB_NoConn ) ]   |                 |         |          |
| 19 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 )  |                 |         | 1.       |
| 20 |       | + ts_CRLC_Rel(tsc_CellDedicated, tsc_RB2)   |                 |         |          |
| 21 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB_DCCH_FACH_MAC)  |                 |         |          |
| 22 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4)  |                 |         |          |
| 23 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )   |                 |         |          |
| 24 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 25 |       | + lt_ReleaseCommonCh  |                 |         |          |
| 26 |       | + It_Release_BCCH   |                 |         |          |
| 27 |       | <ul><li>+ ts_SetCellCfg ( p_CellId, cell_NotConfigured )</li></ul>  |                 |         |          |
| 28 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB0 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_MAC_SRB0_NoConn ) ] |                 |         |          |
| 29 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 )  |                 |         | 1.       |
| 30 |       | + ts_CRLC_Rel(tsc_CellDedicated, tsc_RB2)   |                 |         |          |
| 31 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB3)   |                 |         |          |
| 32 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4)  |                 |         |          |
| 33 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )   |                 |         |          |
| 34 |       | + ts_CRLC_Rel ( p_CellId,<br>tsc_RB_CCCH_FACH_MAC )   |                 |         |          |
| 35 |       | + It_ReleaseCommonCh  |                 |         |          |
| 36 |       | + It_Release_BCCH   |                 |         |          |
| 37 |       | <ul><li>+ ts_SetCellCfg ( p_CellId, cell_NotConfigured )</li></ul>  |                 |         |          |
| 38 |       | [ (tcv_TmpCellInfo.cellConfig = cell_FACH_BMC ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_BMC_NoConn ) ]            |                 |         |          |
| 39 |       | + It_RelSRB1_4  |                 |         |          |
| JJ |       | - IL_INDIOND1_4   | l               |         | I        |

|    |       | Test Step Dynamic   | Behaviour       |         |          |
|----|-------|---|-----------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 40 |       | + ts_CRLC_Rel ( p_CellId , tsc_RB30 )   |                 |         |          |
| 41 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )   |                 |         |          |
| 42 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 43 |       | + ts_CRLC_Rel(p_CellId,<br>tsc_RB_PCCH)   |                 |         |          |
| 44 |       | + lt_ReleaseCommonCh  |                 |         |          |
| 45 |       | + lt_Release_BCCH   |                 |         |          |
| 46 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )  |                 |         |          |
| 47 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH_NoConn) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_PRACH ) ]    |                 |         |          |
| 48 |       | + lt_RelSRB1_4  |                 |         |          |
| 49 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_2ndCCCH)   |                 |         |          |
| 50 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )   |                 |         |          |
| 51 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 52 |       | + It_ReleaseCommonCh  |                 |         |          |
| 53 |       | + ts_CMAC_Rel (p_CellId,<br>tsc_PRACH2 )  |                 |         |          |
| 54 |       | + ts_CPHY_TrChRelNonDch ( p_CellId , tsc_PRACH2)  |                 |         |          |
| 55 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_PRACH2 )   |                 |         |          |
| 56 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_AICH2)   |                 |         |          |
| 57 |       | + lt_Release_BCCH   |                 |         |          |
| 58 |       | <ul><li>+ ts_SetCellCfg ( p_CellId, cell_NotConfigured )</li></ul>  |                 |         |          |
| 59 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2_SCCPCH ) ] |                 |         |          |
| 60 |       | + It_RelSRB1_4  |                 |         |          |
| 61 |       | + ts_CRLC_Rel ( p_CellId , tsc_RB30 )   |                 |         |          |
| 62 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 63 |       | + ts_CRLC_Rel ( p_CellId , tsc_RB_PCCH )  |                 |         |          |
| 64 |       | + ts_CRLC_Rel ( p_CellId, tsc_RB31)   |                 |         |          |
| 65 |       | + ts_CRLC_Rel ( p_CellId,<br>tsc_RB_2ndPCCH )   |                 |         |          |
| 66 |       | + It_ReleaseCommonCh  |                 |         |          |
| 67 |       | + ts_CMAC_Rel (p_CellId, tsc_S_CCPCH2)  |                 |         |          |
| 68 |       | + ts_CPHY_TrChRelNonDch (<br>p_CellId,tsc_S_CCPCH2)   |                 |         |          |

|    |       | Test Step Dynamic   | Behaviour       |         |          |
|----|-------|---|-----------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 69 |       | + ts_SS_StopRL ( p_CellId , tsc_S_CCPCH2 )  |                 |         |          |
| 70 |       | + ts_SS_StopRL ( p_CellId , tsc_PICH2)  |                 |         |          |
| 71 |       | + lt_Release_BCCH   |                 |         |          |
| 72 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured)   |                 |         |          |
| 73 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_NoDedicated ) ]  |                 |         |          |
| 74 |       | + It_ReleaseCommonCh  |                 |         |          |
| 75 |       | + lt_Release_BCCH   |                 |         |          |
| 76 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )  |                 |         |          |
| 77 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoCo nn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS ) ] |                 |         |          |
| 78 |       | + lt_RelSRB1_4  |                 |         |          |
| 79 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20 )  |                 |         |          |
| 80 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |
| 81 |       | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )   |                 |         | 2.       |
| 82 |       | + ts_CMAC_Rel (p_CellId, tsc_PRACH1)  |                 |         |          |
| 83 |       | <pre>+ts_CPHY_TrChRelNonDch ( p_CellId , tsc_PRACH1)</pre>  |                 |         |          |
| 84 |       | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )  |                 |         |          |
| 85 |       | + ts_SS_StopRL ( p_CellId , tsc_AICH1)  |                 |         |          |
| 86 |       | + ts_CRLC_Rel ( p_CellId , tsc_RB_PCCH2 )   |                 |         |          |
| 87 |       | + ts_CMAC_Rel (p_CellId, tsc_S_CCPCH1 )   |                 |         |          |
| 88 |       | + ts_CPHY_TrChRelNonDch ( p_CellId , tsc_S_CCPCH1)  |                 |         |          |
| 89 |       | + ts_SS_StopRL ( p_CellId , tsc_S_CCPCH1 )  |                 |         |          |
| 90 |       | + ts_SS_StopRL (<br>p_CellId , tsc_PICH1)   |                 |         |          |
| 91 |       | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)  |                 |         |          |
| 92 |       | +<br>ts_CPHY_TrChRelNon<br>Dch ( p_Cellld ,<br>tsc_S_CCPCH2)  |                 |         |          |

|     | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |  |  |
|-----|-----------------------------|---|-----------------|---------|----------|--|--|--|--|--|
| Nr  | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |  |  |
| 93  |                             | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_S_CCPCH2 )  |                 |         |          |  |  |  |  |  |
| 94  |                             | + lt_Release_BCCH   |                 |         |          |  |  |  |  |  |
| 95  |                             | + ts_SetCellCfg ( p_CellId, cell_NotConfigure d)  |                 |         |          |  |  |  |  |  |
| 96  |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_2a_No Conn ) OR ( tcv_TmpCellInfo.cellConfig = |                 |         |          |  |  |  |  |  |
|     |                             | cell_FACH_2SCCPCH_StandAlonePCH_2a ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_PS_2a    |                 |         |          |  |  |  |  |  |
| 97  |                             | )]<br>+lt RelSRB1 4   |                 |         |          |  |  |  |  |  |
| 98  |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20)   |                 |         |          |  |  |  |  |  |
| 99  |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB24)   |                 |         |          |  |  |  |  |  |
| 100 |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |  |  |  |  |  |
| 101 |                             | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )   |                 |         | 2.       |  |  |  |  |  |
| 102 |                             | + ts_CMAC_Rel (p_CellId,<br>tsc_PRACH1 )  |                 |         |          |  |  |  |  |  |
| 103 |                             | +ts_CPHY_TrChRelNonDch ( p_CellId , tsc_PRACH1)   |                 |         |          |  |  |  |  |  |
| 104 |                             | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )  |                 |         |          |  |  |  |  |  |
| 105 |                             | + ts_SS_StopRL ( p_CellId ,<br>tsc_AICH1)   |                 |         |          |  |  |  |  |  |
| 106 |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_PCCH2 )  |                 |         |          |  |  |  |  |  |
| 107 |                             | + ts_CMAC_Rel (p_CellId,<br>tsc_S_CCPCH1 )  |                 |         |          |  |  |  |  |  |
| 108 |                             | +<br>ts_CPHY_TrChRelNonDch<br>( p_CellId ,<br>tsc_S_CCPCH1)   |                 |         |          |  |  |  |  |  |
| 109 |                             | + ts_SS_StopRL(<br>p_CellId,<br>tsc_S_CCPCH1)   |                 |         |          |  |  |  |  |  |
| 110 |                             | + ts_SS_StopRL(<br>p_CellId, tsc_PICH1)   |                 |         |          |  |  |  |  |  |
| 111 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)  |                 |         |          |  |  |  |  |  |
| 112 |                             | +<br>ts_CPHY_TrChRelN<br>onDch(p_CellId,<br>tsc_S_CCPCH2)   |                 |         |          |  |  |  |  |  |

|     | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |  |  |
|-----|-----------------------------|---|-----------------|---------|----------|--|--|--|--|--|
| Nr  | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |  |  |
| 113 |                             | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_S_CCPCH2 )  |                 |         |          |  |  |  |  |  |
| 114 |                             | +<br>It_Release_BCCH  |                 |         |          |  |  |  |  |  |
| 115 |                             | + ts_SetCellCfg ( p_CellId, cell_NotConfigu red )   |                 |         |          |  |  |  |  |  |
| 116 |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1_NoC onn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg1 ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2_NoC onn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_Cnfg2) ] |                 |         |          |  |  |  |  |  |
| 117 |                             | + lt_RelSRB1_4  |                 |         |          |  |  |  |  |  |
| 118 |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20 )  |                 |         |          |  |  |  |  |  |
| 119 |                             | + ts_CRLC_Rel (p_CellId, tsc_RB29)  |                 |         |          |  |  |  |  |  |
| 120 |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )  |                 |         |          |  |  |  |  |  |
| 121 |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH_RAB )  |                 |         |          |  |  |  |  |  |
| 122 |                             | + ts_CRLC_Rel ( p_CellId , tsc_RB_PCCH )  |                 |         |          |  |  |  |  |  |
| 123 |                             | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )   |                 |         | 2.       |  |  |  |  |  |
| 124 |                             | + ts_CMAC_Rel (p_CellId, tsc_PRACH1 )   |                 |         |          |  |  |  |  |  |
| 125 |                             | + ts_CPHY_TrChRelNonDch (<br>p_CellId, tsc_PRACH1)  |                 |         |          |  |  |  |  |  |
| 126 |                             | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )  |                 |         |          |  |  |  |  |  |
| 127 |                             | + ts_SS_StopRL ( p_CellId , tsc_AICH1)  |                 |         |          |  |  |  |  |  |
| 128 |                             | + ts_CMAC_Rel (p_CellId, tsc_S_CCPCH1)  |                 |         |          |  |  |  |  |  |
| 129 |                             | + ts_CPHY_TrChRelNonDc h ( p_CellId , tsc_S_CCPCH1)   |                 |         |          |  |  |  |  |  |
| 130 |                             | + ts_SS_StopRL ( p_CellId , tsc_S_CCPCH1 )  |                 |         |          |  |  |  |  |  |
| 131 |                             | + ts_SS_StopRL (<br>p_CellId , tsc_PICH1)   |                 |         |          |  |  |  |  |  |
| 132 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)  |                 |         |          |  |  |  |  |  |

|            | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |
|------------|-----------------------------|--|-----------------|---------|----------|--|--|--|
| Nr         | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |
| 133        |                             | +<br>ts_CPHY_TrChRel<br>NonDch ( p_CellId ,<br>tsc_S_CCPCH2)   |                 |         |          |  |  |  |
| 134        |                             | + ts_SS_StopRL<br>( p_CellId ,<br>tsc_S_CCPCH2 )   |                 |         |          |  |  |  |
| 135        |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH<br>3)   |                 |         |          |  |  |  |
| 136        |                             | +<br>ts_CPHY_TrC<br>hRelNonDch (<br>p_CellId ,<br>tsc_S_CCPC<br>H3)  |                 |         |          |  |  |  |
| 137        |                             | +<br>ts_SS_Stop<br>RL ( p_CellId   |                 |         |          |  |  |  |
|            |                             | tsc_S_CCP<br>CH3)  |                 |         |          |  |  |  |
| 138        |                             | +<br>It_Release_<br>BCCH   |                 |         |          |  |  |  |
| 139        |                             | +<br>ts_SetCe<br>IlCfg (<br>p_CellId,<br>cell_Not<br>Configur<br>ed )  |                 |         |          |  |  |  |
| 140        |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH_NoCo nn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_CTCH ) ] |                 |         |          |  |  |  |
| 141<br>142 |                             | + It_RelSRB1_4 + ts_CRLC_Rel (tsc_CellDedicated,   |                 |         |          |  |  |  |
| 143        |                             | tsc_RB20 ) + ts_CRLC_Rel (p_CellId, tsc_RB30)  |                 |         |          |  |  |  |
| 144        |                             | + ts_CRLC_Rel (p_CellId, tsc_RB29)   |                 |         |          |  |  |  |
| 145        |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )   |                 |         |          |  |  |  |
| 146        |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH_RAB )   |                 |         |          |  |  |  |
| 147        |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_PCCH )  |                 |         |          |  |  |  |
| 148        |                             | + ts_CRLC_Rel ( p_CellId,<br>tsc_RB0 )   |                 |         | 2.       |  |  |  |
| 149        |                             | + ts_CMAC_Rel (p_CellId,<br>tsc_PRACH1)  |                 |         |          |  |  |  |
| 150        |                             | +ts_CPHY_TrChRelNonDch ( p_CellId, tsc_PRACH1)   |                 |         |          |  |  |  |

|     |       | Test Step Dynamic E   | Behaviour       |         |          |
|-----|-------|---|-----------------|---------|----------|
| Nr  | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 151 |       | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )                          |                 |         |          |
| 152 |       | + ts_SS_StopRL ( p_CellId , tsc_AICH1)                            |                 |         |          |
| 153 |       | + ts_CMAC_Rel (p_CellId, tsc_S_CCPCH1)                            |                 |         |          |
| 154 |       | +<br>ts_CPHY_TrChRelNonD<br>ch ( p_CellId ,<br>tsc_S_CCPCH1)      |                 |         |          |
| 155 |       | + ts_SS_StopRL( p_CellId, tsc_S_CCPCH1)                           |                 |         |          |
| 156 |       | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_PICH1)                      |                 |         |          |
| 157 |       | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)                      |                 |         |          |
| 158 |       | +ts_CPHY_TrCh<br>RelNonDch(<br>p_CellId ,<br>tsc_S_CCPCH2)        |                 |         |          |
| 159 |       | +<br>ts_SS_StopRL<br>( p_CellId ,<br>tsc_S_CCPCH<br>2 )           |                 |         |          |
| 160 |       | +<br>ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPC<br>H3)               |                 |         |          |
| 161 |       | +<br>ts_CPHY_Tr<br>ChRelNonDc<br>h(p_CellId,<br>tsc_S_CCP<br>CH3) |                 |         |          |
| 162 |       | +<br>ts_SS_Sto<br>pRL (<br>p_CellId ,<br>tsc_S_CC<br>PCH3)        |                 |         |          |
| 163 |       | +<br>It_Releas<br>e_BCCH  |                 |         |          |
| 164 |       | +<br>ts_Set<br>CellCfg<br>(<br>p_CellI<br>d,                      |                 |         |          |
|     |       | cell_No<br>tConfig<br>ured )                                      |                 |         |          |

|     | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |
|-----|-----------------------------|---|-----------------|---------|----------|--|--|--|
| Nr  | Label                       | Behaviour Description                                     | Constraints Ref | Verdict | Comments |  |  |  |
| 165 |                             | [ tcv_TmpCellInfo.cellConfig = cell_Two_DTCH ]            |                 |         |          |  |  |  |
| 166 |                             | + It_RelSRB1_4  |                 |         |          |  |  |  |
| 167 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )             |                 |         |          |  |  |  |
| 168 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )             |                 |         |          |  |  |  |
| 169 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )          |                 |         |          |  |  |  |
| 170 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )          |                 |         |          |  |  |  |
| 171 |                             | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId , tsc_DL_DPCH1 ) |                 |         |          |  |  |  |
| 172 |                             | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)     |                 |         |          |  |  |  |
| 173 |                             | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )             |                 |         |          |  |  |  |
| 174 |                             | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )                |                 |         |          |  |  |  |
| 175 |                             | + lt_ReleaseCommonCh                                      |                 |         |          |  |  |  |
| 176 |                             | + lt_Release_BCCH   |                 |         |          |  |  |  |
| 177 |                             | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )          |                 |         |          |  |  |  |
| 178 |                             | [ tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS ]        |                 |         |          |  |  |  |
| 179 |                             | + lt_RelSRB1_4  |                 |         |          |  |  |  |
| 180 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )             |                 |         |          |  |  |  |
| 181 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )             |                 |         |          |  |  |  |
| 182 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB12 )             |                 |         |          |  |  |  |
| 183 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB13 )             |                 |         |          |  |  |  |
| 184 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)           |                 |         |          |  |  |  |
| 185 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )          |                 |         |          |  |  |  |
| 186 |                             | + ts_CPHY_TrChRelDCH_NoSHO<br>( p_CellId , tsc_DL_DPCH1 ) |                 |         |          |  |  |  |
| 187 |                             | +   |                 |         |          |  |  |  |
|     |                             | ts_CPHY_TrChReIDCH_NoSHO<br>( p_CellId , tsc_UL_DPCH1 )   |                 |         |          |  |  |  |
| 188 |                             | + ts_SS_StopRL ( p_CellId , tsc_DL_DPCH1 )                |                 |         |          |  |  |  |
| 189 |                             | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )                |                 |         |          |  |  |  |
| 190 |                             | + It_ReleaseCommonCh                                      |                 |         |          |  |  |  |
| 191 |                             | + lt_Release_BCCH   |                 |         |          |  |  |  |
| 192 |                             | + ts_SetCellCfg(<br>p_CellId,<br>cell_NotConfigured)      |                 |         |          |  |  |  |

|     |       | Test Step Dynamic I  | Behaviour       |         |          |
|-----|-------|--|-----------------|---------|----------|
| Nr  | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 193 |       | [ (tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS) OR ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_PS_CS) ]  |                 |         |          |
| 194 |       | + lt_RelSRB1_4   |                 |         |          |
| 195 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )  |                 |         |          |
| 196 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )  |                 |         |          |
| 197 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )   |                 |         |          |
| 198 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 199 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_DL_DPCH1)  |                 |         |          |
| 200 |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId, tsc_UL_DPCH1)  |                 |         |          |
| 201 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 202 |       | + ts_SS_StopRL(p_CellId,<br>tsc_UL_DPCH1)  |                 |         |          |
| 203 |       | + It_ReleaseCommonCh   |                 |         |          |
| 204 |       | + lt_Release_BCCH  |                 |         |          |
| 205 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )   |                 |         |          |
| 206 |       | [ (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS) OR (tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_PS_CS) ] |                 |         |          |
| 207 |       | + lt_RelSRB1_4   |                 |         |          |
| 208 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )  |                 |         |          |
| 209 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )  |                 |         |          |
| 210 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB12 )  |                 |         |          |
| 211 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )  |                 |         |          |
| 212 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )   |                 |         |          |
| 213 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 214 |       | + ts_CPHY_TrChRelDCH_NoSHO<br>( p_CellId , tsc_DL_DPCH1 )  |                 |         |          |
| 215 |       | +ts_CPHY_TrChRelDCH_NoSH<br>O(p_CellId,tsc_UL_DPCH1)   |                 |         |          |
| 216 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 217 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 218 |       | + lt_ReleaseCommonCh   |                 |         | 2.       |
| 219 |       | + It_Release_BCCH  |                 |         |          |

|     | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |
|-----|-----------------------------|--|-----------------|---------|----------|--|--|--|
| Nr  | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |
| 220 |                             | + ts_SetCellCfg (<br>p_CellId,<br>cell_NotConfigured)        |                 |         |          |  |  |  |
| 221 |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_PS ) ]        |                 |         |          |  |  |  |
| 222 |                             | + lt_RelSRB1_4   |                 |         |          |  |  |  |
| 223 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )                |                 |         |          |  |  |  |
| 224 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)              |                 |         |          |  |  |  |
| 225 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )             |                 |         |          |  |  |  |
| 226 |                             | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId , tsc_DL_DPCH1 )    |                 |         |          |  |  |  |
| 227 |                             | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)        |                 |         |          |  |  |  |
| 228 |                             | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )                |                 |         |          |  |  |  |
| 229 |                             | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )                   |                 |         |          |  |  |  |
| 230 |                             | + ts_CMAC_Rel<br>(tsc_CellDedicated,<br>tsc_DL_PDSCH1 )      |                 |         |          |  |  |  |
| 231 |                             | + ts_CPHY_TrChRelNonDch (<br>p_CellId , tsc_DL_PDSCH1 )      |                 |         |          |  |  |  |
| 232 |                             | + ts_SS_StopRL ( p_CellId , tsc_DL_PDSCH1 )                  |                 |         |          |  |  |  |
| 233 |                             | + It_ReleaseCommonCh   |                 |         |          |  |  |  |
| 234 |                             | + It_Release_BCCH  |                 |         |          |  |  |  |
| 235 |                             | + ts_SetCellCfg (<br>p_CellId,<br>cell_NotConfigured)        |                 |         |          |  |  |  |
| 236 |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_DSCH_CS_PS ) ]     |                 |         |          |  |  |  |
| 237 |                             | + lt_RelSRB1_4   |                 |         |          |  |  |  |
| 238 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )                |                 |         |          |  |  |  |
| 239 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )                |                 |         |          |  |  |  |
| 240 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB12 )                |                 |         |          |  |  |  |
| 241 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )                |                 |         |          |  |  |  |
| 242 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )             |                 |         |          |  |  |  |
| 243 |                             | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )             |                 |         |          |  |  |  |
| 244 |                             | + ts_CPHY_TrChRelDCH_NoSHO<br>( p_CellId , tsc_DL_DPCH1 )    |                 |         |          |  |  |  |
| 245 |                             | +<br>ts_CPHY_TrChReIDCH_NoSHO<br>( p_CeIlld , tsc_UL_DPCH1 ) |                 |         |          |  |  |  |

|     |       | Test Step Dynamic  | Behaviour       |         |          |
|-----|-------|--|-----------------|---------|----------|
| Nr  | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 246 |       | + ts_SS_StopRL(p_CellId,<br>tsc_DL_DPCH1)  |                 |         |          |
| 247 |       | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )   |                 |         |          |
| 248 |       | + ts_CMAC_Rel<br>(tsc_CellDedicated,<br>tsc_DL_PDSCH1 )  |                 |         |          |
| 249 |       | +<br>ts_CPHY_TrChRelNonDc<br>h ( p_CellId ,<br>tsc_DL_PDSCH1 )   |                 |         |          |
| 250 |       | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_DL_PDSCH1 )  |                 |         |          |
| 251 |       | +<br>lt_ReleaseCommonCh  |                 |         |          |
| 252 |       | + It_Release_BCCH  |                 |         |          |
| 253 |       | + ts_SetCellCfg ( p_CellId, cell_NotConfigured )   |                 |         |          |
| 254 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH_NoCo nn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_2SCCPCH_StandAlonePCH ) ] |                 |         |          |
| 255 |       | + lt_RelSRB1_4   |                 |         |          |
| 256 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20)  |                 |         |          |
| 257 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB24)  |                 |         |          |
| 258 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH )   |                 |         |          |
| 259 |       | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_PCCH2 )   |                 |         |          |
| 260 |       | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )  |                 |         | 2.       |
| 261 |       | + ts_CMAC_Rel (p_CellId,<br>tsc_PRACH1 )   |                 |         |          |
| 262 |       | +ts_CPHY_TrChRelNonDch (<br>p_CellId , tsc_PRACH1)   |                 |         |          |
| 263 |       | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )   |                 |         |          |
| 264 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_AICH1)  |                 |         |          |
| 265 |       | + ts_CMAC_Rel (p_CellId,<br>tsc_S_CCPCH1)  |                 |         |          |
| 266 |       | +<br>ts_CPHY_TrChRelNonDch<br>( p_CellId ,<br>tsc_S_CCPCH1)  |                 |         |          |
| 267 |       | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_S_CCPCH1 )   |                 |         |          |
| 268 |       | + ts_SS_StopRL (<br>p_CellId, tsc_PICH1)   |                 |         |          |

|     | Test Step Dynamic Behaviour |  |                 |         |          |  |  |
|-----|-----------------------------|--|-----------------|---------|----------|--|--|
| Nr  | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |
| 269 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)                 |                 |         |          |  |  |
| 270 |                             | +<br>ts_CPHY_TrChReIN<br>onDch ( p_CeIIId ,<br>tsc_S_CCPCH2) |                 |         |          |  |  |
| 271 |                             | + ts_SS_StopRL ( p_CellId , tsc_S_CCPCH2 )                   |                 |         |          |  |  |
| 272 |                             | + ts_SS_StopRL<br>( p_CellId ,<br>tsc_PICH2)                 |                 |         |          |  |  |
| 273 |                             | +<br>It_ReleaseComm<br>onCh                                  |                 |         |          |  |  |
| 274 |                             | +<br>ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPC<br>H2)          |                 |         |          |  |  |
| 275 |                             | +<br>ts_CPHY_Tr<br>ChRelNonDc<br>h ( p_CellId ,              |                 |         |          |  |  |
| 276 |                             | tsc_S_CCP<br>CH2)<br>+<br>ts_SS_Sto<br>pRL (<br>p_CellId ,   |                 |         |          |  |  |
| 277 |                             | tsc_S_CC<br>PCH2)<br>+<br>ts_SS_S<br>topRL(<br>p_CellId,     |                 |         |          |  |  |
| 278 |                             | tsc_PIC<br>H2)<br>+  |                 |         |          |  |  |
| 210 |                             | t_Relea<br>se_BC<br>CH                                       |                 |         |          |  |  |
| 279 |                             | + ts_Se tCellC fg ( p_Cell ld, cell_N otCo nfigur            |                 |         |          |  |  |

|     | Test Step Dynamic Behaviour |   |                 |         |          |  |  |
|-----|-----------------------------|---|-----------------|---------|----------|--|--|
| Nr  | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |
| 280 |                             | [ (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1_N oConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1 ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2_NoConn ) OR (tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2 ) ] |                 |         |          |  |  |
| 281 |                             | + lt_RelSRB1_4  |                 |         |          |  |  |
| 282 |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20 )  |                 |         |          |  |  |
| 283 |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB24)   |                 |         |          |  |  |
| 284 |                             | + ts_CRLC_Rel (p_CellId, tsc_RB29)  |                 |         |          |  |  |
| 285 |                             | + ts_CRLC_Rel(p_CellId,<br>tsc_RB_BCCH_FACH)  |                 |         |          |  |  |
| 286 |                             | + ts_CRLC_Rel ( p_CellId ,<br>tsc_RB_BCCH_FACH_RAB )  |                 |         |          |  |  |
| 287 |                             | + ts_CRLC_Rel ( p_CellId , tsc_RB_PCCH )  |                 |         |          |  |  |
| 288 |                             | + ts_CRLC_Rel ( p_CellId,<br>tsc_RB0 )  |                 |         | 2.       |  |  |
| 289 |                             | + ts_CMAC_Rel (p_CellId,<br>tsc_PRACH1 )  |                 |         |          |  |  |
| 290 |                             | + ts_CPHY_TrChRelNonDch (<br>p_CellId , tsc_PRACH1)   |                 |         |          |  |  |
| 291 |                             | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )  |                 |         |          |  |  |
| 292 |                             | + ts_SS_StopRL ( p_CellId<br>, tsc_AlCH1)   |                 |         |          |  |  |
| 293 |                             | + ts_CMAC_Rel (p_CellId, tsc_S_CCPCH1 )   |                 |         |          |  |  |
| 294 |                             | +<br>ts_CPHY_TrChRelNonD<br>ch ( p_CellId ,<br>tsc_S_CCPCH1)  |                 |         |          |  |  |
| 295 |                             | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_S_CCPCH1 )  |                 |         |          |  |  |
| 296 |                             | + ts_SS_StopRL(<br>p_CellId,<br>tsc_PICH1)  |                 |         |          |  |  |
| 297 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)  |                 |         |          |  |  |
| 298 |                             | +<br>ts_CPHY_TrChR<br>elNonDch (<br>p_CellId ,<br>tsc_S_CCPCH2)   |                 |         |          |  |  |
| 299 |                             | +<br>ts_SS_StopRL<br>( p_CellId ,<br>tsc_S_CCPCH<br>2 )   |                 |         |          |  |  |

|            | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |
|------------|-----------------------------|--|-----------------|---------|----------|--|--|--|
| Nr         | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |
| 300        |                             | + ts_CMAC_Rel (p_CellId, tsc_S_CCPC H3) + ts_CPHY_Tr ChRelNonDc  |                 |         |          |  |  |  |
| 000        |                             | h ( p_CellId ,<br>tsc_S_CCP<br>CH3)  |                 |         |          |  |  |  |
| 302        |                             | + ts_SS_Sto pRL ( p_CellId , tsc_S_CC PCH3 )   |                 |         |          |  |  |  |
| 303        |                             | +<br>It_Releas<br>e_BCCH   |                 |         |          |  |  |  |
| 304        |                             | + ts_Set CellCfg ( p_CellI d, cell_No tConfig ured)  |                 |         |          |  |  |  |
| 305        |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH_N oConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_FACH_3_SCCPCH_3_FACH_2a_CTCH ) ] |                 |         |          |  |  |  |
| 306        |                             | + lt_RelSRB1_4   |                 |         |          |  |  |  |
| 307        |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB20 )   |                 |         |          |  |  |  |
| 308        |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB24)  |                 |         |          |  |  |  |
| 309        |                             | + ts_CRLC_Rel (p_CellId, tsc_RB30)   |                 |         |          |  |  |  |
| 310<br>311 |                             | + ts_CRLC_Rel (p_CellId, tsc_RB29)  + ts_CRLC_Rel ( p_CellId , tsc_RB_BCCH_FACH )  |                 |         |          |  |  |  |
| 312        |                             | + ts_CRLC_Rel ( p_CellId , tsc_RB_BCCH_FACH_RAB )  |                 |         |          |  |  |  |
| 313        |                             | + ts_CRLC_Rel ( p_CellId , tsc_RB_PCCH )   |                 |         |          |  |  |  |
| 314        |                             | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )  |                 |         | 2.       |  |  |  |
| 315        |                             | + ts_CMAC_Rel (p_CellId, tsc_PRACH1)   |                 |         |          |  |  |  |
| 316<br>317 |                             | +ts_CPHY_TrChRelNonDch ( p_CellId , tsc_PRACH1)  + ts_SS_StopRL (p_CellId , tsc_PRACH1)  |                 |         |          |  |  |  |

|     | Test Step Dynamic Behaviour |   |                 |         |          |  |  |  |
|-----|-----------------------------|---|-----------------|---------|----------|--|--|--|
| Nr  | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments |  |  |  |
| 318 |                             | + ts_SS_StopRL (<br>p_CellId , tsc_AICH1)                     |                 |         |          |  |  |  |
| 319 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH1)                  |                 |         |          |  |  |  |
| 320 |                             | +<br>ts_CPHY_TrChRelNon<br>Dch ( p_CellId ,<br>tsc_S_CCPCH1)  |                 |         |          |  |  |  |
| 321 |                             | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_S_CCPCH1 )              |                 |         |          |  |  |  |
| 322 |                             | + ts_SS_StopRL (<br>p_CellId ,<br>tsc_PICH1)                  |                 |         |          |  |  |  |
| 323 |                             | + ts_CMAC_Rel<br>(p_CellId,<br>tsc_S_CCPCH2)                  |                 |         |          |  |  |  |
| 324 |                             | +ts_CPHY_TrC<br>hRelNonDch(<br>p_CellId,<br>tsc_S_CCPCH<br>2) |                 |         |          |  |  |  |
| 325 |                             | +<br>ts_SS_StopR<br>L ( p_CellId ,<br>tsc_S_CCPC<br>H2 )      |                 |         |          |  |  |  |
| 326 |                             | ts_CMAC_R el (p_CellId, tsc_S_CCP CH3)                        |                 |         |          |  |  |  |
| 327 |                             | + ts_CPHY_ TrChRelNo nDch( p_CellId, tsc_S_CC PCH3)           |                 |         |          |  |  |  |
| 328 |                             | +<br>ts_SS_S<br>topRL (<br>p_CellId,                          |                 |         |          |  |  |  |
| 329 |                             | tsc_S_C<br>CPCH3)<br>+<br>It_Relea<br>se_BC                   |                 |         |          |  |  |  |

|     |       | Test Step Dynamic  | Behaviour                              |         |          |
|-----|-------|--|--|---------|----------|
| Nr  | Label | Behaviour Description  | Constraints Ref                        | Verdict | Comments |
| 330 |       | +<br>ts_Se<br>tCellC<br>fg (<br>p_Cell<br>Id,<br>cell_N<br>otCo<br>nfigur<br>ed) |  |         |          |
| 331 |       | [TRUE]   |  |         |          |
|     |       | lt_Release_BCCH  |  |         |          |
| 332 |       | + ts_CRLC_Rel ( p_CellId , tsc_RB_BCCH )   |  |         |          |
| 333 |       | + ts_CMAC_Rel (p_CellId, tsc_P_CCPCH)  |  |         |          |
| 334 |       | + ts_CPHY_TrChRelNonDch ( p_CellId , tsc_P_CCPCH )                               |  |         |          |
| 335 |       | + ts_SS_StopRL ( p_CellId, tsc_S_SCH )   |  |         |          |
| 336 |       | + ts_SS_StopRL ( p_CellId, tsc_P_SCH )   |  |         |          |
| 337 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_P_CCPCH )                                     |  |         |          |
| 338 |       | + ts_SS_StopRL ( p_CellId, tsc_P_CPICH )   |  |         |          |
| 339 |       | CPHY! CPHY_Cell_Release_REQ  | ca_CPHY_Cell_Release_RE<br>Q(p_CellId) |         |          |
| 340 |       | CPHY ? CPHY_Cell_Release_CNF   | ca_CPHY_Cell_Release_CN<br>F(p_CellId) |         |          |
|     |       | lt_ReleaseCommonCh   |  |         |          |
| 341 |       | + ts_CRLC_Rel ( p_CellId, tsc_RB0 )  |  |         | 2.       |
| 342 |       | + ts_CMAC_Rel (p_CellId, tsc_PRACH1)   |  |         |          |
| 343 |       | + ts_CPHY_TrChRelNonDch ( p_CellId , tsc_PRACH1)                                 |  |         |          |
| 344 |       | + ts_SS_StopRL ( p_CellId , tsc_AICH1)   |  |         |          |
| 345 |       | + ts_SS_StopRL ( p_CellId , tsc_PRACH1 )   |  |         |          |
| 346 |       | + ts_CRLC_Rel ( p_CellId,<br>tsc_RB_PCCH )                                       |  |         | 3.       |
| 347 |       | + ts_CMAC_Rel (p_CellId,<br>tsc_S_CCPCH1 )                                       |  |         |          |
| 348 |       | + ts_CPHY_TrChRelNonDch (<br>p_CellId, tsc_S_CCPCH1)                             |  |         |          |
| 349 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_PICH1)  |  |         |          |
| 350 |       | + ts_SS_StopRL ( p_CellId , tsc_S_CCPCH1 )                                       |  |         |          |
|     |       | lt_RelSRB1_4   |  |         |          |
| 351 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 )                                     |  |         | 1.       |
| 352 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB2)                                      |  |         |          |
| 353 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB3 )                                     |  |         |          |
| 354 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4)                                       |  |         |          |

Detailed Comments : 1. Release DPCH 2. Release PRACH 3. Release S-CCPCH

Test Step Name : ts\_SS\_ReIDPCH ( p\_CellId : INTEGER )
Group : BasicM\_SS\_Configuration\_Steps/
Objective : To release the DPCH channel.

Default : SS\_Def

**Comments**: The following channels need to be removed:

physical channels: DPCH; transport channesl: DCH logical channels: DCCH; and

signalling radio bearer: signalling bearers on DCH radio access bearer on DCH.

Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |          |
| 2  |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB_NoConn ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_StandAloneSRB) ] |                 |         |          |
| 3  |       | + It_RelSRB1_4   |                 |         |          |
| 4  |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)  |                 |         |          |
| 5  |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 6  |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId, tsc_DL_DPCH1)  |                 |         |          |
| 7  |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_Cellid, tsc_UL_DPCH1)  |                 |         |          |
| 8  |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 9  |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 10 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_Speech ) ]   |                 |         |          |
| 11 |       | + lt_RelSRB1_4   |                 |         |          |
| 12 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )  |                 |         |          |
| 13 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )  |                 |         |          |
| 14 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB12)  |                 |         |          |
| 15 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)  |                 |         |          |
| 16 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 17 |       | +ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId, tsc_DL_DPCH1)   |                 |         |          |
| 18 |       | +<br>ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId , tsc_UL_DPCH1 )  |                 |         |          |
| 19 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 20 |       | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )   |                 |         |          |
| 21 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kCS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_57_6kCS_RAB_SRB ) ]     |                 |         |          |

|    |       | Test Step Dynamic  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 22 |       | + lt_RelSRB1_4   |                 |         |          |
| 23 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )  |                 |         |          |
| 24 |       | + ts_CMAC_Rel (tsc_CellDedicated,<br>tsc_DL_DPCH1)   |                 |         |          |
| 25 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 26 |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId , tsc_DL_DPCH1 )  |                 |         |          |
| 27 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)  |                 |         |          |
| 28 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 29 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 30 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB ) OR ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_RAB ) ] |                 |         |          |
| 31 |       | + lt_RelSRB1_4   |                 |         |          |
| 32 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )  |                 |         |          |
| 33 |       | + ts_CMAC_Rel (tsc_CellDedicated,<br>tsc_DL_DPCH1)   |                 |         |          |
| 34 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 35 |       | + ts_CPHY_TrChReIDCH_NoSHO(<br>p_CellId,tsc_DL_DPCH1)  |                 |         |          |
| 36 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)  |                 |         |          |
| 37 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 38 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 39 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_UM_RAB ) ]  |                 |         |          |
| 40 |       | + lt_RelSRB1_4   |                 |         |          |
| 41 |       | + ts_CRLC_Rel (tsc_CellDedicated,<br>tsc_RB21)   |                 |         |          |
| 42 |       | + ts_CMAC_Rel (tsc_CellDedicated,<br>tsc_DL_DPCH1)   |                 |         |          |
| 43 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1)  |                 |         |          |
| 44 |       | + ts_CPHY_TrChReIDCH_NoSHO(<br>p_CellId,tsc_DL_DPCH1)  |                 |         |          |
| 45 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)  |                 |         |          |
| 46 |       | + ts_SS_StopRL ( p_CellId , tsc_DL_DPCH1 )   |                 |         |          |
| 47 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 48 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_PDCP_AM_UM_RAB ) ]   |                 |         |          |

|    | v 1   | Test Step Dynamic E  | Behaviour       |         |          |
|----|-------|--|-----------------|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 49 |       | + lt_RelSRB1_4   |                 |         |          |
| 50 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20 )  |                 |         |          |
| 51 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB21 )  |                 |         |          |
| 52 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )   |                 |         |          |
| 53 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )   |                 |         |          |
| 54 |       | +ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId , tsc_DL_DPCH1 )   |                 |         |          |
| 55 |       | +ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)   |                 |         |          |
| 56 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 57 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 58 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_7Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis ) OR ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis ) ] |                 |         |          |
| 59 |       | + lt_RelSRB1_4   |                 |         |          |
| 60 |       | + lt_ReleaseRLC_RB   |                 |         |          |
| 61 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)  |                 |         |          |
| 62 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1)  |                 |         |          |
| 63 |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId, tsc_DL_DPCH1)  |                 |         |          |
| 64 |       | + ts_CPHY_TrChRelDCH_NoSHO (<br>p_CellId, tsc_UL_DPCH1)  |                 |         |          |
| 65 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )  |                 |         |          |
| 66 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )  |                 |         |          |
| 67 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB) OR ( tcv_TmpCellInfo.cellConfig = cell_DCH_MAC_SRB_NoConn )]  |                 |         |          |
| 68 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 )   |                 |         |          |
| 69 |       | + ts_CRLC_Rel(tsc_CellDedicated, tsc_RB2)  |                 |         |          |
| 70 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB_DCCH_DCH_MAC)   |                 |         |          |
| 71 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4)   |                 |         |          |
| 72 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1 )   |                 |         |          |

|    |       | Test Step Dynamic B   | Behaviour       |         |          |
|----|-------|---|-----------------|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
| 73 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )                                  |                 |         |          |
| 74 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_DL_DPCH1)                             |                 |         |          |
| 75 |       | + ts_CPHY_TrChReIDCH_NoSHO<br>( p_CellId , tsc_UL_DPCH1 )                         |                 |         |          |
| 76 |       | + ts_SS_StopRL ( p_CellId , tsc_DL_DPCH1 )  |                 |         |          |
| 77 |       | + ts_SS_StopRL ( p_CellId , tsc_UL_DPCH1 )  |                 |         |          |
| 78 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_2AM_PS) OR ( tcv_TmpCellInfo.cellConfig |                 |         |          |
| 79 |       | =cell_DCH_2_PS_Call) ] + lt_RelSRB1_4   |                 |         |          |
| 80 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20)                                      |                 |         |          |
| 81 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB22)                                       |                 |         |          |
| 82 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)                                   |                 |         |          |
| 83 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1)                                   |                 |         |          |
| 84 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_DL_DPCH1)                             |                 |         |          |
| 85 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId,tsc_UL_DPCH1)                             |                 |         |          |
| 86 |       | + ts_SS_StopRL ( p_CellId , tsc_DL_DPCH1 )  |                 |         |          |
| 87 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )                                     |                 |         |          |
| 88 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_Two_DTCH_CS_PS ) ]                          |                 |         |          |
| 89 |       | + lt_RelSRB1_4  |                 |         |          |
| 90 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )                                     |                 |         |          |
| 91 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20)                                      |                 |         |          |
| 92 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)                                   |                 |         |          |
| 93 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1)                                   |                 |         |          |
| 94 |       | +ts_CPHY_TrChRelDCH_NoSHO( p_CellId,tsc_DL_DPCH1)                                 |                 |         |          |
| 95 |       | + ts_CPHY_TrChRelDCH_NoSHO(<br>p_CellId, tsc_UL_DPCH1)                            |                 |         |          |
| 96 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )                                     |                 |         |          |
| 97 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )                                     |                 |         |          |
| 98 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_Four_DTCH_CS_PS ) ]                         |                 |         |          |

|     |       | Test Step Dynamic E  | Behaviour       |         |          |
|-----|-------|--|-----------------|---------|----------|
| Nr  | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
| 99  |       | + lt_RelSRB1_4   |                 |         |          |
| 100 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB10 )                  |                 |         |          |
| 101 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB11 )                  |                 |         |          |
| 102 |       | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB12)                    |                 |         |          |
| 103 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB20)                   |                 |         |          |
| 104 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_DL_DPCH1)                |                 |         |          |
| 105 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1 )               |                 |         |          |
| 106 |       | +ts_CPHY_TrChRelDCH_NoSHO<br>( p_CellId , tsc_DL_DPCH1 )       |                 |         |          |
| 107 |       | +  |                 |         |          |
|     |       | ts_CPHY_TrChReIDCH_NoSHO<br>( p_CellId , tsc_UL_DPCH1 )        |                 |         |          |
| 108 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )                  |                 |         |          |
| 109 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )                  |                 |         |          |
| 110 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_DCH_64kPS_RAB_SRB_HS ) ] |                 |         |          |
| 111 |       | + lt_RelSRB1_4   |                 |         |          |
| 112 |       | +ts_CRLC_Rel (tsc_CellDedicated, tsc_RB25)                     |                 |         |          |
| 113 |       | + ts_CMAC_Rel (tsc_CellDedicated,<br>tsc_DL_DPCH1)             |                 |         |          |
| 114 |       | + ts_CMAC_Rel (tsc_CellDedicated, tsc_UL_DPCH1)                |                 |         |          |
| 115 |       | + ts_CPHY_TrChReIDCH_NoSHO (<br>p_CellId , tsc_DL_DPCH1 )      |                 |         |          |
| 116 |       | + ts_CPHY_TrChReIDCH_NoSHO (<br>p_Cellid, tsc_UL_DPCH1)        |                 |         |          |
| 117 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_DL_DPCH1 )                  |                 |         |          |
| 118 |       | + ts_SS_StopRL ( p_CellId ,<br>tsc_UL_DPCH1 )                  |                 |         |          |
| 119 | ERR   | [TRUE]   |                 |         |          |
|     |       | It_ReleaseRLC_RB   |                 |         |          |
| 120 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_15Lis) ]  |                 |         |          |
| 121 |       | + ts_CRLC_Rel (tsc_CellDedicated,<br>tsc_RB_AM_15_RLC)         |                 |         |          |
| 122 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_AM_RAB_7Lis) ]   |                 |         |          |
| 123 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB_AM_7_RLC)            |                 |         |          |
| 124 |       | [ ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_15Lis) ]  |                 |         |          |
| 125 |       | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB_UM_15_RLC)           |                 |         |          |

|     | Test Step Dynamic Behaviour |  |                 |         |          |  |  |  |  |
|-----|-----------------------------|--|-----------------|---------|----------|--|--|--|--|
| Nr  | Label                       | Behaviour Description  | Constraints Ref | Verdict | Comments |  |  |  |  |
| 126 |                             | [ ( tcv_TmpCellInfo.cellConfig = cell_RLC_DCH_UM_RAB_7Lis) ] |                 |         |          |  |  |  |  |
| 127 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB_UM_7_RLC)          |                 |         |          |  |  |  |  |
|     |                             | lt_RelSRB1_4   |                 |         |          |  |  |  |  |
| 128 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB1 )                 |                 |         | 1.       |  |  |  |  |
| 129 |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB2)                   |                 |         |          |  |  |  |  |
| 130 |                             | + ts_CRLC_Rel ( tsc_CellDedicated, tsc_RB3 )                 |                 |         |          |  |  |  |  |
| 131 |                             | + ts_CRLC_Rel (tsc_CellDedicated, tsc_RB4)                   |                 |         |          |  |  |  |  |

Test Step Name : ts\_SS\_ReleaseDCH\_ToDCH (p\_CellId, p\_RB\_Id :INTEGER;p\_ActTime : ActivationTime)

Group : BasicM\_SS\_Configuration\_Steps/

Objective : Reconfigure the cell status from CELL\_DCH with one RAB to cell\_DCH\_StandAloneSRB

Default : SS\_Def

Comments : Description :

| Nr | Label | Behaviour Description                         | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )              |                 |         |          |
| 2  |       | [px_RAT = fdd]                                |                 |         |          |
| 3  |       | + ts_CRLC_Rel ( tsc_CellDedicated, p_RB_ld )  |                 |         |          |
| 4  |       | +ts_SS_1DCH_DCCH_Modify(p_CellId ,p_ActTime ) |                 |         |          |
| 5  | ERR1  | [px_RAT = tdd]                                |                 | 1       |          |
| 6  | ERR2  | [TRUE]  |                 | I       |          |

#### **Detailed Comments:**

# Test Step Dynamic Behaviour

 $\textbf{Test Step Name} \quad : \ ts\_SS\_StopRL(p\_CellId: INTEGER; p\_PhyCH: PhysicalChannelIdentity)$ 

Group : BasicM\_SS\_Configuration\_Steps/

**Objective**: To stop transmission and receiving on the specified physical channel

Default : SS\_Def

Comments : To release (stop transmission and receiving) the specified physical channel

Description :

| 1 CPHY!CPHY_RL_Release_REQ ca_RL_RelReq(p_CellId, p_PhyCH) 2 CPHY?CPHY_RL_Release_CNF ca_RL_RelCnf(p_CellId, p_PhyCH) | Nr | Label | Behaviour Description    | Constraints Ref                    | Verdict | Comments |
|---|----|-------|--------------------------|------------------------------------|---------|----------|
|   | 1  |       | CPHY!CPHY_RL_Release_REQ |                                    |         |          |
| F=,,  | 2  |       | CPHY?CPHY_RL_Release_CNF | ca_RL_RelCnf(p_CellId,<br>p_PhyCH) |         |          |

**Detailed Comments:** 

 $\textbf{Test Step Name} \quad : \ ts\_InitializeSIB11\_SIB12 \ ( \ p\_CellID : INTEGER \ )$ 

Group : BasicM\_SysInfoHandling\_Steps/Default/
Objective : To assign tcv\_SIB11 and tcv\_SIB12

Default : InitOtherwiseFail

Comments : Description :

| 3  | Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments             |
|--|----|-------|---|-----------------|---------|----------------------|
| PLMN   Isst case   Isst panel   | 1  |       | + ts_SetTmpCellInfo ( p_CellID )  |                 |         |                      |
| 1  | 2  |       | [ tcv_NumOfPLMN = 1]  |                 |         | Default I            |
| 1  |    |       |   |                 |         | PLMN<br>test case    |
| 1  | 3  |       | +lt_10r2PLMN  |                 |         |                      |
| Section   Sect   | 4  |       | [ tcv_NumOfPLMN = 2]  |                 |         | 2 PLMN<br>test case  |
| Test case   Test   | 5  |       |   |                 |         |                      |
| Section   Sect   | 6  |       | [ tcv_NumOfPLMN = 3]  |                 |         | 3 PLMN<br>test case  |
| step not designed for this    It_1Or2PLMN  | 7  |       | _   |                 |         |                      |
| [p_CellID = tsc_CellA ]   (tcv_SIB11 := cb_SIB11_Def (tcv_CellInfoA, tcv_CellInfoB, tcv_SIB12 := cb_SIB12_Def )   [p_CellID = tsc_CellB ]   (tcv_SIB11 := cb_SIB11_Def (tcv_CellInfoB, tcv_CellInfoA, tcv_CellInfoC, tcv_CellInfoB, tcv_CellInfoH, tcv_CellInfoB, t   | 8  |       | [TRUE]  |                 | (1)     | step not<br>designed |
| 10   |    |       | lt_1Or2PLMN   |                 |         |                      |
| tcv_CellinfoB, tcv_CellinfoC, tcv_CellinfoG, tcv_CellinfoH, tcv_CellinfoD, tcv_CellinfoE, tcv_CellinfoF), tcv_SiB12 := cb_SiB12_Def)  [p_CelliD = tsc_CellB ]  (tcv_SiB11 := cb_SiB11_Def (tcv_CellinfoB, tcv_CellinfoB, tcv_CellinfoH, tcv_CellinfoC, tcv_CellinfoG, tcv_CellinfoF), tcv_CellinfoF), tcv_SiB12 := cb_SiB12_Def)  [p_CelliD = tsc_CellC]  (tcv_SiB11 := cb_SiB11_Def (tcv_CellinfoC, tcv_CellinfoB, tcv_Cel | 9  |       | [p_CellID = tsc_CellA ]   |                 |         |                      |
| 12     (tcv_SIB11 := cb_SIB11_Def ( tcv_CellInfoB, tcv_CellInfoA, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoF), tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)  13     (p_CellID = tsc_CellC]  14     (tcv_SIB11 := cb_SIB11_Def ( tcv_CellInfoC, tcv_CellInfoA, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoB, tcv_CellInfoB, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)  15     (p_CellID = tsc_CellD]  16     (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoD, tcv_CellInfoB, tcv_CellInfoE, tcv_CellInfoB, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoB,  | 10 |       | tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), |                 |         |                      |
| tcv_CellInfoA, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoE, tcv_CellInfoF), tcv_CellInfoF, tcv_CellInfoF, tcv_CellInfoF, tcv_SIB12 := cb_SIB12_Def)  13   | 11 |       | [p_CellID = tsc_CellB ]   |                 |         |                      |
| (tcv_SIB11 := cb_SIB11_Def (tcv_CellInfoC, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)  [p_CellID = tsc_CelID]  (tcv_SIB11 := cb_SIB11_Freq2 (tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoE, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  [p_CellID = tsc_CelIE]  (tcv_SIB11 := cb_SIB11_Freq2 (tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoD, tcv_CellInfoC, tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoC, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoB, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoC, tcv_CellInfoB, tcv_C | 12 |       | tcv_CellInfoA, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), |                 |         |                      |
| tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)  [p_CellID = tsc_CellD]  (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  [p_CellID = tsc_CellE]  (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)   | 13 |       | [p_CellID = tsc_CellC]  |                 |         |                      |
| (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  [p_CellID = tsc_CellE]  (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)   | 14 |       | tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoG, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), |                 |         |                      |
| tcv_CellInfoE, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  [p_CellID = tsc_CellE]  (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  | 15 |       | [p_CellID = tsc_CellD]  |                 |         |                      |
| (tcv_SIB11 := cb_SIB11_Freq2 (tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)  | 16 |       | tcv_CellInfoE, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), |                 |         |                      |
| tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)   | 17 |       | [p_CellID = tsc_CellE]  |                 |         |                      |
| 19 In CellD = tsc CellEl   | 18 |       | tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), |                 |         |                      |
| 10   | 19 |       | [p_CellID = tsc_CellF]  |                 |         |                      |

|    |       | Test Step Dynamic  | Behaviour       |         |                 |
|----|-------|--|-----------------|---------|-----------------|
| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments        |
| 20 |       | (tcv_SIB11 := cb_SIB11_Freq2 ( tcv_CellInfoF, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)                   |                 |         |                 |
| 21 |       | [p_CellID = tsc_CellG]   |                 |         |                 |
| 22 |       | (tcv_SIB11 := cb_SIB11_Def ( tcv_CellInfoG, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoH, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)                       |                 |         |                 |
| 23 |       | [p_CellID = tsc_CellH]   |                 |         |                 |
| 24 |       | (tcv_SIB11 := cb_SIB11_Def ( tcv_CellInfoH, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)                       |                 |         |                 |
| 25 |       | [TRUE]   |                 | I       | no such<br>cell |
|    |       | lt_3PLMN   |                 |         |                 |
| 26 |       | [p_CellID = tsc_CellA ]  |                 |         |                 |
| 27 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2 (tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Def)             |                 |         |                 |
| 28 |       | [p_CellID = tsc_CellB ]  |                 |         |                 |
| 29 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2 (tcv_CellInfoB, tcv_CellInfoA, tcv_CellInfoC, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Def )            |                 |         |                 |
| 30 |       | [p_CellID = tsc_CellC]   |                 |         |                 |
| 31 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2<br>(tcv_CellInfoC, tcv_CellInfoA, tcv_CellInfoB,<br>tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF,<br>tcv_CellInfoG, tcv_CellInfoH),<br>tcv_SIB12 := cb_SIB12_Def) |                 |         |                 |
| 32 |       | [p_CellID = tsc_CellD]   |                 |         |                 |
| 33 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2( tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)           |                 |         |                 |
| 34 |       | [p_CellID = tsc_CellE]   |                 |         |                 |
| 35 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2 ( tcv_CellInfoE, tcv_CellInfoD, tcv_CellInfoF, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)          |                 |         |                 |
| 36 |       | [p_CellID = tsc_CellF]   |                 |         |                 |
| 37 |       | (tcv_SIB11 := cb_SIB11_Freq3_PLMN1Or2 ( tcv_CellInfoF, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoG, tcv_CellInfoH), tcv_SIB12 := cb_SIB12_Freq2)          |                 |         |                 |

### Continued from previous page

|      | Test Step Dynamic Behaviour |   |                 |         |                 |  |  |  |  |  |
|------|-----------------------------|---|-----------------|---------|-----------------|--|--|--|--|--|
| Nr   | Label                       | Behaviour Description   | Constraints Ref | Verdict | Comments        |  |  |  |  |  |
| 38   |                             | [p_CellID = tsc_CellG]  |                 |         |                 |  |  |  |  |  |
| 39   |                             | (tcv_SIB11 := cb_SIB11_Freq3_PLMN3 ( tcv_CellInfoG, tcv_CellInfoH,tcv_CellInfoA, tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoD, tcv_CellInfoE, tcv_CellInfoF), tcv_SIB12 := cb_SIB12_Def)             |                 |         |                 |  |  |  |  |  |
| 40   |                             | [p_CellID = tsc_CellH]  |                 |         |                 |  |  |  |  |  |
| 41   |                             | (tcv_SIB11 := cb_SIB11_Freq3_PLMN3<br>(tcv_CellInfoH, tcv_CellInfoG, tcv_CellInfoA,<br>tcv_CellInfoB, tcv_CellInfoC, tcv_CellInfoD,<br>tcv_CellInfoE, tcv_CellInfoF),<br>tcv_SIB12 := cb_SIB12_Def) |                 |         |                 |  |  |  |  |  |
| 42   |                             | [TRUE]  |                 | 1       | no such<br>cell |  |  |  |  |  |
| Deta | Detailed Comments :         |   |                 |         |                 |  |  |  |  |  |

 $\textbf{Test Step Name} \quad : \ ts\_InitializeSIB2AndSIB18 (\ p\_CellInfo: CellInfoCfg)$ 

Group : BasicM\_SysInfoHandling\_Steps/Default/
Objective : To initialize tcv\_SIB2 and tcv\_SIB18

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments               |
|----|-------|--|-----------------|---------|------------------------|
| 1  |       | (tcv_SIB2 := c_SIB2_Def ( p_CellInfo))                                   |                 |         |                        |
| 2  |       | [ tcv_NumOfPLMN = 1]   |                 |         | Default I              |
|    |       |  |                 |         | PLMN                   |
|    |       | ( OD40 OD40 D ( O W ( ))   |                 |         | test case              |
| 3  |       | (tcv_SIB18 := c_SIB18_Def(p_CellInfo))                                   |                 |         | O DI MNI               |
| 4  |       | [ tcv_NumOfPLMN = 2]   |                 |         | 2 PLMN<br>Test<br>Case |
| 5  |       | + It_Init2PLMN   |                 |         |                        |
| 6  |       | [ tcv_NumOfPLMN = 3]   |                 |         | 3 PLMN                 |
|    |       |  |                 |         | Test<br>case           |
| 7  |       | + lt_Init3PLMN   |                 |         | Case                   |
| 8  |       | [TRUE]   |                 | (I)     | The test               |
|    |       |  |                 |         | step not               |
|    |       |  |                 |         | designed for this      |
|    |       | lt_Init2PLMN   |                 |         |                        |
| 9  |       | [ (p_CellInfo.cellId = tsc_CellA) OR                                     |                 |         | PLMN                   |
|    |       | (p_CellInfo.cellId = tsc_CellB) OR                                       |                 |         | Group 1                |
|    |       | (p_CellInfo.cellId = tsc_CellC) OR<br>(p_CellInfo.cellId = tsc_CellG) OR |                 |         | cells,<br>Hence        |
|    |       | (p_CellInfo.cellId = tsc_CellH) ]  |                 |         | MCC                    |
|    |       |  |                 |         | and<br>MNC of          |
|    |       |  |                 |         | Cell D                 |
| 10 |       | (According to CIDAO)   |                 |         | used                   |
| 10 |       | (tcv_SIB18 :=<br>c_SIB18_2PLMN(tcv_CellInfoD))                           |                 |         |                        |
| 11 |       | <i>, _ ,</i><br>[TRUE]   |                 |         | PLMN                   |
|    |       |  |                 |         | Group 2 cells,         |
|    |       |  |                 |         | Hence                  |
|    |       |  |                 |         | MCC<br>and             |
|    |       |  |                 |         | MNC of                 |
|    |       |  |                 |         | Cell A                 |
| 12 |       | (tcv_SIB18 := c_SIB18_2PLMN(tcv_CellInfoA))                              |                 |         | used                   |
| 14 |       | lt_init3PLMN   |                 |         |                        |
|    |       | IL_ITIILOT LIVIIN  |                 |         |                        |

|       |          | Test Step Dynamic E   | Behaviour       |         |  |
|-------|----------|---|-----------------|---------|--|
| Nr    | Label    | Behaviour Description   | Constraints Ref | Verdict | Comments   |
| 13    |          | [ (p_CellInfo.cellId = tsc_CellA) OR (p_CellInfo.cellId = tsc_CellB) OR (p_CellInfo.cellId = tsc_CellC) ] |                 |         | PLMN Group 1 cells, Hence MCC and MNC of Cell D and G used |
| 14    |          | (tcv_SIB18 := c_SIB18_3PLMN(tcv_CellInfoD, tcv_CellInfoG))  |                 |         |  |
| 15    |          | [ (p_CellInfo.cellId = tsc_CelID) OR (p_CellInfo.celIId = tsc_CelIE) OR (p_CellInfo.celIId = tsc_CelIF) ] |                 |         | PLMN Group 2 cells, Hence MCC and MNC of Cell A and G used |
| 16    |          | (tcv_SIB18 := c_SIB18_3PLMN(tcv_CellInfoA, tcv_CellInfoG))  |                 |         |  |
| 17    |          | [TRUE]  |                 |         | PLMN Group 3 cells, Hence MCC and MNC of Cell A and D used |
| 18    |          | (tcv_SIB18 := c_SIB18_3PLMN(tcv_CellInfoA, tcv_CellInfoD))  |                 |         |  |
| Detai | iled Com | ments:  |                 |         |  |

Test Step Name : ts\_SendDefSysInfo ( p\_CellId: INTEGER)
Group : BasicM\_SysInfoHandling\_Steps/Default/
Objective : To broadcast default system infomation.

Default : InitOtherwiseFail

Comments : Description :

| Nr   | Label    | Behaviour Description   | Constraints Ref | Verdict | Comments   |
|------|----------|---|-----------------|---------|--|
| 1    |          | + ts_UTRAN_GERAN_ParaInit( p_CellId )                                   |                 |         | ts_SetT<br>mpCellIn<br>fo done<br>already<br>in<br>ts_UTR<br>AN_GE<br>RAN_Pa<br>ralnit |
| 2    |          | +ts_CellDependentPara(p_CellId)   |                 |         |  |
| 3    |          | +ts_InitializeSIB2AndSIB18( tcv_TmpCellInfo)                            |                 |         |  |
| 4    |          | + ts_InitializeSIB11_SIB12 ( p_CellId )                                 |                 |         |  |
| 5    |          | $[px_RAT = fdd]$  |                 |         |  |
| 6    |          | +ts_SendNoSegDefSchedul(p_CellId)                                       |                 |         |  |
| 7    |          | +ts_SendSIB1 ( cb_SIB1_Def(<br>tcv_TmpCellInfo),<br>p_CellId, tsc_Now ) |                 |         |  |
| 8    |          | +ts_SendSIB2(tcv_SIB2,<br>p_CellId, tsc_Now)                            |                 |         |  |
| 9    |          | +ts_SendSIB3(tcv_SIB3, p_CellId, tsc_Now)                               |                 |         |  |
| 10   |          | +ts_SendSIB4(tcv_SIB4, p_CellId, tsc_Now)                               |                 |         |  |
| 11   |          | +ts_SendSIB5(cb_SIB5_Def(tcv<br>_TmpCellInfo), p_CellId,<br>tsc_Now)    |                 |         |  |
| 12   |          | +ts_SendSIB6(cb_SIB6_Def(tc<br>v_TmpCellInfo), p_CellId,<br>tsc_Now)    |                 |         |  |
| 13   |          | +ts_SendSIB7(c_SIB7_Def, p_CellId, tsc_Now)                             |                 |         |  |
| 14   |          | +ts_SendSIB11(tcv_SIB11, p_CellId, tsc_Now)                             |                 |         |  |
| 15   |          | +ts_SendSIB12(<br>tcv_SIB12, p_CellId,<br>tsc_Now)                      |                 |         |  |
| 16   |          | +ts_SendSIB18(<br>tcv_SIB18, p_CellId,<br>tsc_Now)                      |                 |         |  |
| 17   |          | +ts_SendSB1_DefSch<br>edul(tcv_SB1,<br>p_CellId, tsc_Now)               |                 |         |  |
| 18   |          | +ts_SendMIB(tcv_MI<br>B, p_CellId,<br>tsc_Now)                          |                 |         |  |
| 19   | ERR1     | $[px\_RAT = tdd]$   |                 | I       |  |
| 20   | ERR2     | [TRUE]  |                 | ı       |  |
| Deta | iled Com | ments :   |                 |         |  |

Test Step Name : ts\_SendNoSegDefSchedul(p\_CellId : INTEGER)

**Group**: BasicM\_SysInfoHandling\_Steps/Default/

Objective : To deliver the system information message with NoSegment to SS on the frames on which there is no

any SIB/MIB/SB scheduled

Default : InitOtherwiseFail

**Comments** : Current scheduling assumption:

Repetition period: 64 frames; Not scheduled positions: frame 54 (SIB\_POS 27).

Above unscheduled positions can be used for other SIBs later, if so this test Step shall be modified

accordingly.

Description :

| 4 |  |   | <br>Comments |
|---|--|---|--------------|
|   | +ts_Scheduling(p_CellId, 6, 27, tsc_Now) |   | pos = 27     |
| 2 | CMAC?CMAC_SYSINFO_Config_CNF             | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |              |
| 3 | TM!RLC_TR_DATA_REQ                       | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |              |

**Detailed Comments:** 

Test Step Name : ts\_SendSB1\_DefSchedul (p\_SB: SysInfoTypeSB1; p\_CellId : INTEGER; p\_Timing : INTEGER)

Group : BasicM\_SysInfoHandling\_Steps/Default/
Objective : To deliver the SysInfoTypeSB1 to SS

**Default** : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | (tcv_Segs := o_SIB_Segmentation (<br>o_SIB_PER_Encoding ( sB1 : p_SB )))                                |   |         | 1.       |
| 2  |       | [tcv_Segs.segCount =1]  |   |         |          |
| 3  |       | +ts_Scheduling(p_CellId, 4, 1, p_Timing)  |   |         | 3.       |
| 4  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 5  |       | +lt_CompleteSIB(schedulingBlock1)   |   |         | 4.       |
| 6  |       | +ts_ChangeSB1_ValueTag  |   |         |          |
| 7  |       | (tcv_MIB.sibSb_ReferenceList.[0].sched<br>uling := c_SB1_Schedul1,<br>tcv_SB1_ValueTagChanged := FALSE) |   |         |          |
| 8  |       | [tcv_Segs.segCount <>1]   |   | 1       | 2.       |
|    |       | lt_CompleteSIB(p_SIBType : SIB_Type)  |   |         |          |
| 9  |       | [LENGTH_OF(tcv_Segs.seg1) = 226]  |   |         |          |
| 10 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))      |         | 4.       |
| 11 |       | [LENGTH_OF(tcv_Segs.seg1) <> 226]   |   |         |          |
| 12 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1)) |         | 4.       |

**Detailed Comments**: 1. Unaligned PER encoding of the SB1 then segmentation.

- 2. The result of segmentation shall be one segment for the SB1 ( current assumption).
- 3. Send the scheduling info to SS.(one segment; REP=16; POS=1).
- 4. Construct the system information message containing the first segment of SB1 and send it to

SS.

Test Step Name : ts\_SendSIB1 (p\_SIB: SysInfoType1; p\_CellId : INTEGER; p\_Timing: INTEGER)

Group : BasicM\_SysInfoHandling\_Steps/Default/

Objective : To deliver the SIBType1 to SS

Default : InitOtherwiseFail

: SIB1 is concatenated with SIB2. Comments

system information on air changes imediatly if p\_Timing => 512. change of system information on air

starts at the frame number = p\_Timing.

Description

| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
|----|-------|---|--|---------|----------|
| 1  |       | <pre>(tcv_SIB1 := p_SIB, tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB1: p_SIB), tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB2 : tcv_SIB2))</pre>    |  |         | 1.       |
| 2  |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]   |  | I       | 2.       |
| 3  |       | [TRUE]  |  |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 11, p_Timing)   |  |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 6  |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType<br>1, tcv_Segs.seg1,<br>systemInformationBlockType<br>2, tcv_Segs.seg2)) |         | 4.       |
| 7  |       | (tcv_MIB.sibSb_ReferenceList.[1].sibSb_T<br>ype.sysInfoType1 :=<br>(tcv_MIB.sibSb_ReferenceList.[1].sibSb_T<br>ype.sysInfoType1) MOD 256 + 1) |  |         |          |
| 8  |       | +ts_ChangeMIB_ValueTag  |  |         |          |

- **Detailed Comments**: 1. Save the new SIB1 value to tcv\_SIB1, unaligned PER encoding of the SIB1 and SIB2.
  - 2. The concatenated SIB1 and SIB2 is too long .
  - 3. Send the scheduling info to SS. one segment: REP=64, POS=11.
  - 4. Construct the system information message containing completeList of SIB1+SIB2 and send it to SS.

Test Step Name : ts\_SendSIB11(p\_SIB: SysInfoType11; p\_CellId : INTEGER; p\_Timing: INTEGER)

**Group** : BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIBType11 to SS

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | (tcv_Segs := o_SIB_Segmentation(o_SIB_PER_Encoding ( sIB11 : p_SIB)))   |   |         | 1.       |
| 2  |       | [tcv_Segs.segCount >3]  |   | 1       | 2.       |
| 3  |       | [tcv_Segs.segCount <=3]   |   |         |          |
| 4  |       | [tcv_Segs.segCount = 1]   |   |         |          |
| 5  |       | (tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl<br>nfoType11 :=<br>(tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl<br>nfoType11) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[2].scheduling :=<br>c_SIB11_Schedul1) |   |         |          |
| 6  |       | +ts_ChangeSB1_ValueTag  |   |         |          |
| 7  |       | +ts_Scheduling(p_CellId, 6, 29, p_Timing)   |   |         | 3.       |
| 8  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 9  |       | <pre>+lt_CompleteSIB(systemInformationBl ockType11)</pre>   |   |         | 4.       |
| 10 |       | +ts_Scheduling(p_CellId, 6, 30, p_Timing)   |   |         | 5.       |
| 11 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 12 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 13 |       | +ts_Scheduling(p_CellId, 6, 31, p_Timing)   |   |         | 8.       |
| 14 |       | CMAC?CMAC_SYSINFO_C onfig_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 15 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 16 |       | [tcv_Segs.segCount = 2]   |   |         |          |
| 17 |       | (tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl<br>nfoType11 :=<br>(tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl<br>nfoType11) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[2].scheduling :=<br>c_SIB11_Schedul2) |   |         |          |
| 18 |       | +ts_ChangeSB1_ValueTag  |   |         |          |
| 19 |       | +ts_Scheduling(p_CellId, 6, 31, p_Timing)   |   |         | 8.       |
| 20 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 21 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 22 |       | +ts_Scheduling(p_CellId, 6, 29, p_Timing)   |   |         | 3.       |

|    |       | Test Step Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 23 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 24 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType11, 2,<br>tcv_Segs.seg1))      |         | 4.       |
| 25 |       | +ts_Scheduling(p_CellId, 6, 30, p_Timing)  |   |         | 5.       |
| 26 |       | CMAC?CMAC_SYSINFO_C onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 27 |       | [LENGTH_OF(tcv_Segs.seg 2) <= 214]   |   |         |          |
| 28 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType11,<br>1, tcv_Segs.seg2))  |         | 7.       |
| 29 |       | [TRUE]   |   |         |          |
| 30 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType11, 1,<br>tcv_Segs.seg2))       |         | 7.       |
| 31 |       | [tcv_Segs.segCount = 3]  |   |         |          |
| 32 |       | (tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl nfoType11 := (tcv_SB1.sib_ReferenceList.[2].sib_Type.sysl nfoType11) MOD 4 + 1, tcv_SB1.sib_ReferenceList.[2].scheduling := c_SIB11_Schedul3) |   |         |          |
| 33 |       | +ts_ChangeSB1_ValueTag   |   |         |          |
| 34 |       | +ts_Scheduling(p_CellId, 6, 30, p_Timing)  |   |         | 5.       |
| 35 |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 36 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType11,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 37 |       | +ts_Scheduling(p_CellId, 6, 29, p_Timing)  |   |         | 3.       |
| 38 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 39 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType11, 3,<br>tcv_Segs.seg1))      |         | 4.       |
| 40 |       | +ts_Scheduling(p_CellId, 6, 31, p_Timing)  |   |         | 8.       |
| 41 |       | CMAC?CMAC_SYSINFO_C onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 42 |       | [LENGTH_OF(tcv_Segs.seg 3) <= 214]   |   |         |          |

|    | Test Step Dynamic Behaviour |                                      |  |         |          |  |  |  |
|----|-----------------------------|--------------------------------------|--|---------|----------|--|--|--|
| Nr | Label                       | Behaviour Description                | Constraints Ref  | Verdict | Comments |  |  |  |
| 43 |                             | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType11,<br>2, tcv_Segs.seg3)) |         | 9.       |  |  |  |
| 44 |                             | [TRUE]                               |  |         |          |  |  |  |
| 45 |                             | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType11, 2,<br>tcv_Segs.seg3))      |         | 9.       |  |  |  |
|    |                             | lt_CompleteSIB(p_SIBType : SIB_Type) |  |         |          |  |  |  |
| 46 |                             | [LENGTH_OF(tcv_Segs.seg1) = 226]     |  |         |          |  |  |  |
| 47 |                             | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))                               |         | 4.       |  |  |  |
| 48 |                             | [TRUE]                               |  |         |          |  |  |  |
| 49 |                             | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1))                          |         | 4.       |  |  |  |

- **Detailed Comments**: 1. Unaligned PER encoding of the SIB11 then segmentation.
  - 2. The result of segmentation shall be one or two or three segments for the SIB11 ( current
  - 3. Send the scheduling info to SS. one segment: REP=64, POS=29.
  - 4. Construct the system information message containing first segment of SIB11 and send it to
  - 5. Send the scheduling info to SS. one segment: REP=64, POS=30.
  - 6. Send no segment system information message to SS.
  - 7. Construct the system information message containing the second segment of SIB11 and send it to SS.
  - 8. Send the scheduling info segment to SS. one segment: REP=64, POS=31.
  - 9. Construct the system information message containing the third segment of SIB11 and send it to SS.

 $\textbf{Test Step Name} \quad : \ ts\_SendSIB12(p\_SIB: \ SysInfoType12; \ p\_CellId: \ INTEGER; \ p\_Timing: \ INTEGER)$ 

**Group** : BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIBType12 to SS

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | (tcv_Segs :=  |   |         | 1.       |
|    |       | o_SIB_Segmentation(o_SIB_PER_Encoding ( sIB12 : p_SIB)))  |   |         |          |
| 2  |       | [tcv_Segs.segCount >3]  |   | 1       | 2.       |
| 3  |       | [tcv_Segs.segCount <=3]   |   |         |          |
| 4  |       | [tcv_Segs.segCount = 1]   |   |         |          |
| 5  |       | (tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl<br>nfoType12 :=<br>(tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl<br>nfoType12) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[3].scheduling :=<br>c_SIB12_Schedul1) |   |         |          |
| 6  |       | +ts_ChangeSB1_ValueTag  |   |         |          |
| 7  |       | +ts_Scheduling(p_CellId, 6, 13, p_Timing)   |   |         | 3.       |
| 8  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 9  |       | +lt_CompleteSIB(systemInformationBI ockType12)  |   |         | 4.       |
| 10 |       | +ts_Scheduling(p_CellId, 6, 14, p_Timing)   |   |         | 5.       |
| 11 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 12 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 13 |       | +ts_Scheduling(p_CellId, 6, 15, p_Timing)   |   |         | 8.       |
| 14 |       | CMAC?CMAC_SYSINFO_C<br>onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 15 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 16 |       | [tcv_Segs.segCount = 2]   |   |         |          |
| 17 |       | (tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl<br>nfoType12 :=<br>(tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl<br>nfoType12) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[3].scheduling :=<br>c_SIB12_Schedul2) |   |         |          |
| 18 |       | +ts_ChangeSB1_ValueTag  |   |         |          |
| 19 |       | +ts_Scheduling(p_CellId, 6, 15, p_Timing)   |   |         | 8.       |
| 20 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 21 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 22 |       | +ts_Scheduling(p_CellId, 6, 13, p_Timing)   |   |         | 3.       |

|    |       | Test Step Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 23 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 24 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType12, 2,<br>tcv_Segs.seg1))      |         | 4.       |
| 25 |       | +ts_Scheduling(p_CellId, 6, 14, p_Timing)  |   |         | 5.       |
| 26 |       | CMAC?CMAC_SYSINFO_C onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 27 |       | [LENGTH_OF(tcv_Segs.seg 2) <= 214]   |   |         |          |
| 28 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType12,<br>1, tcv_Segs.seg2))  |         | 7.       |
| 29 |       | [TRUE]   |   |         |          |
| 30 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType12, 1,<br>tcv_Segs.seg2))       |         | 7.       |
| 31 |       | [tcv_Segs.segCount = 3]  |   |         |          |
| 32 |       | (tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl nfoType12 := (tcv_SB1.sib_ReferenceList.[3].sib_Type.sysl nfoType12) MOD 4 + 1, tcv_SB1.sib_ReferenceList.[3].scheduling := c_SIB12_Schedul3) |   |         |          |
| 33 |       | +ts_ChangeSB1_ValueTag   |   |         |          |
| 34 |       | +ts_Scheduling(p_CellId, 6, 14, p_Timing)  |   |         | 5.       |
| 35 |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 36 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType12,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 37 |       | +ts_Scheduling(p_CellId, 6, 13, p_Timing)  |   |         | 3.       |
| 38 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 39 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType12, 3,<br>tcv_Segs.seg1))      |         | 4.       |
| 40 |       | +ts_Scheduling(p_CellId, 6, 15, p_Timing)  |   |         | 8.       |
| 41 |       | CMAC?CMAC_SYSINFO_C onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 42 |       | [LENGTH_OF(tcv_Segs.seg 3) <= 214]   |   |         |          |

|    |       | Test Step Dynamic                    | Behaviour  |         |          |
|----|-------|--------------------------------------|--|---------|----------|
| Nr | Label | Behaviour Description                | Constraints Ref  | Verdict | Comments |
| 43 |       | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType12,<br>2, tcv_Segs.seg3)) |         | 9.       |
| 44 |       | [TRUE]                               |  |         |          |
| 45 |       | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType12, 2,<br>tcv_Segs.seg3))      |         | 9.       |
| 46 |       | [TRUE]                               |  |         |          |
|    |       | It_CompleteSIB(p_SIBType : SIB_Type) |  |         |          |
| 47 |       | [LENGTH_OF(tcv_Segs.seg1) = 226]     |  |         |          |
| 48 |       | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))                               |         | 4.       |
| 49 |       | [TRUE]                               |  |         |          |
| 50 |       | TM!RLC_TR_DATA_REQ                   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1))                          |         | 4.       |

- **Detailed Comments**: 1. Unaligned PER encoding of the SIB12 then segmentation.
  - 2. The result of segmentation shall be one or two or three segments for the SIB12 ( current assumption).
  - 3. Send the scheduling info segment to SS. one segment: REP=64, POS=13.
  - 4. Construct the system information message containing the first segment of SIB12 and send it
  - 5. Send the scheduling info segment to SS. one segment: REP=64, POS=14.
  - 6. Send no segment system information message to SS.
  - 7. Construct the system information message containing the second segment of SIB12 and send
  - 8. Send the scheduling info to SS. one segment: REP=64, POS=15 .
  - 9. Construct the system information message containing the third segment of SIB12 and send it to SS.

Test Step Name : ts\_SendSIB18 (p\_SIB: SysInfoType18; p\_CellId : INTEGER; p\_Timing: INTEGER)

Group : BasicM\_SysInfoHandling\_Steps/Default/

Objective : To deliver the SIB18 to SS

Default : InitOtherwiseFail

Comments : SIB18 is concatenated with SIB7, default scheduling described in 3GPP TS 34.123–3 clause 8.4.3

Description

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | (tcv_SIB18 := p_SIB, tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB18 : p_SIB), tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB7 : tcv_SIB7))    |   |         | 1.       |
| 2  |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]   |   | I       | 2.       |
| 3  |       | [TRUE]  |   |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 18, p_Timing)   |   |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 6  |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId, tsc_RB_BCCH, cs_SIB_MsgCmplList2( systemInformationBlockType 7, tcv_Segs.seg2, systemInformationBlockType |         | 4.       |
|    |       |   | 18, tcv_Segs.seg1 ))  |         |          |
| 7  |       | (tcv_SB1.sib_ReferenceList.[4].sib_Type.s<br>ysInfoType18 :=<br>(tcv_SB1.sib_ReferenceList.[4].sib_Type.s<br>ysInfoType18) MOD 4 + 1) |   |         |          |
| 8  |       | +ts_ChangeSB1_ValueTag  |   |         |          |

- Detailed Comments: 1. save the new value of SIB18, unaligned PER encoding of the SIB7 and SIB18.
  - 2. The concatenated SIB7 and SIB18 is too long.
  - 3. Send the scheduling info to SS. one segment: REP=64, POS=18.
  - 4. Construct the system information message containing SIB18 + SIB7 and sent to SS.

Test Step Name : ts\_SendSIB2 ( p\_SIB: SysInfoType2; p\_CellId : INTEGER; p\_Timing: INTEGER )

Group : BasicM\_SysInfoHandling\_Steps/Default/

Objective : To deliver the SIB2 to SS

Default : InitOtherwiseFail

Comments : SIB2 is concatenated with SIB1

Description

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments |
|----|-------|--|--|---------|----------|
| 1  |       | (tcv_SIB2 := p_SIB,<br>tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB2 :<br>p_SIB),<br>tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB1 :<br>tcv_SIB1)) |  |         | 1.       |
| 2  |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]  |  | I       | 2.       |
| 3  |       | [TRUE]   |  |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 11, p_Timing)  |  |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 6  |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq ( p_CellId, tsc_RB_BCCH, cs_SIB_MsgCmplList2 ( systemInformationBlockType 1, tcv_Segs.seg2, systemInformationBlockType 2, tcv_Segs.seg1 )) |         | 4.       |
| 7  |       | (tcv_MIB.sibSb_ReferenceList.[2].sibSb_T<br>ype.sysInfoType2 :=<br>(tcv_MIB.sibSb_ReferenceList.[2].sibSb_T<br>ype.sysInfoType2) MOD 4 + 1)  |  |         |          |
| 8  |       | +ts_ChangeMIB_ValueTag   |  |         |          |

- Detailed Comments: 1. Save the new SIB2 value to tcv\_SIB2, unaligned PER encoding of the SIB1 and SIB2.
  - 2. The concatenated SIB1 and SIB2 is too long.
  - 3. Send the scheduling info to SS. one segment, REP=64, POS=11.
  - 4. Construct the system information message containing SIB2 + SIB1 and send it to SS.

 $\textbf{Test Step Name} \quad : \ ts\_SendSIB3(p\_SIB: \ SysInfoType3; \ p\_CellId: \ INTEGER; \ p\_Timing: \ INTEGER)$ 

**Group**: BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIB3 to SS

Default : InitOtherwiseFail

**Comments**: SIB3 is concatenated with SIB7.

Description :

| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
|----|-------|---|--|---------|----------|
| 1  |       | ( tcv_SIB3 := p_SIB, tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB3 : p_SIB), tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB7 : tcv_SIB7))           |  |         | 1.       |
| 2  |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]   |  | 1       | 2.       |
| 3  |       | [TRUE]  |  |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 10, p_Timing)   |  |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 6  |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType<br>7, tcv_Segs.seg2,<br>systemInformationBlockType<br>3, tcv_Segs.seg1)) |         | 4.       |
| 7  |       | (tcv_MIB.sibSb_ReferenceList.[3].sibSb_T<br>ype.sysInfoType3 :=<br>(tcv_MIB.sibSb_ReferenceList.[3].sibSb_T<br>ype.sysInfoType3) MOD 4 + 1) |  |         |          |
| 8  |       | +ts_ChangeMIB_ValueTag  |  |         |          |

**Detailed Comments**: 1. Save the new value of SIB3 to tcv\_SIB3, unaligned PER encoding of the SIB3 and SIB7.

- 2. The concatenated SIB3 and SIB7 is too long.
- 3. Send the scheduling info to SS. one segment; REP=64, POS=10.
- 4. Construct the system information message containing SIB3 + SIB7 and send it to SS.

 $\textbf{Test Step Name} \quad : \ ts\_SendSIB4(p\_SIB: \ SysInfoType4; \ p\_CellId: \ INTEGER; \ p\_Timing: \ INTEGER)$ 

Group : BasicM\_SysInfoHandling\_Steps/Default/

Objective : To deliver the SIB4 to SS

Default : InitOtherwiseFail

Comments : SIB4 is concatenated with SIB7

Description

| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
|----|-------|---|---|---------|----------|
| 1  |       | (tcv_SIB4 := p_SIB, tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB4 : p_SIB), tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB7 : tcv_SIB7))            |   |         | 1.       |
| 2  |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]   |   | 1       | 2.       |
| 3  |       | [TRUE]  |   |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 26, p_Timing)   |   |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 6  |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType |         | 4.       |
|    |       |   | 7, tcv_Segs.seg2,<br>systemInformationBlockType<br>4, tcv_Segs.seg1))                         |         |          |
| 7  |       | (tcv_MIB.sibSb_ReferenceList.[4].sibSb_T<br>ype.sysInfoType4 :=<br>(tcv_MIB.sibSb_ReferenceList.[4].sibSb_T<br>ype.sysInfoType4) MOD 4 + 1) |   |         |          |
| 8  |       | +ts_ChangeMIB_ValueTag  |   |         |          |

- Detailed Comments: 1. Save the new value of SIB3 to tcv\_SIB3, unaligned PER encoding of the SIB3 and SIB7.
  - 2. The concatenated SIB4 and SIB7 is too long.
  - 3. Send the scheduling info to SS. one segment; REP=64, POS=10.
  - 4. Construct the system information message containing SIB4 + SIB7 and send it to SS.

Test Step Name : ts\_SendSIB5 ( p\_SIB: SysInfoType5; p\_CellId : INTEGER; p\_Timing: INTEGER)

**Group** : BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIBType5 to SS

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | (tcv_Segs := o_SIB_Segmentation  |   |         | 1.       |
|    |       | (o_SIB_PER_Encoding ( sIB5 : p_SIB)))  |   |         |          |
| 2  |       | [tcv_Segs.segCount >4]   |   |         | 2.       |
| 3  |       | [tcv_Segs.segCount <=4]  |   |         |          |
| 4  |       | [tcv_Segs.segCount = 1]  |   |         |          |
| 5  |       | +ts_Scheduling(p_CellId, 6, 19, p_Timing)  |   |         | 3.       |
| 6  |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 7  |       | +lt_CompleteSIB(systemInformationBlock<br>Type5)   |   |         | 4.       |
| 8  |       | +ts_Scheduling(p_CellId, 6, 21, p_Timing)  |   |         | 5.       |
| 9  |       | CMAC?CMAC_SYSINFO_Config_C<br>NF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 10 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 11 |       | +ts_Scheduling(p_CellId, 6, 22, p_Timing)  |   |         | 8.       |
| 12 |       | CMAC?CMAC_SYSINFO_Confi<br>g_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 13 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 14 |       | +ts_Scheduling(p_CellId, 6, 23, p_Timing)  |   |         | 10.      |
| 15 |       | CMAC?CMAC_SYSINFO_<br>Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 16 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 17 |       | (tcv_MIB.sibSb_Referen ceList.[5].sibSb_Type.sys InfoType5 := (tcv_MIB.sibSb_Referen ceList.[5].sibSb_Type.sys InfoType5) MOD 4 + 1, tcv_MIB.sibSb_Referenc eList.[5].scheduling := c_SIB5_Schedul1) |   |         |          |
| 18 |       | +ts_ChangeMIB_Value<br>Tag   |   |         |          |
| 19 |       | [tcv_Segs.segCount = 2]  |   |         |          |
| 20 |       | (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5 := (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5) MOD 4 + 1, tcv_MIB.sibSb_ReferenceList.[5].scheduling := c_SIB5_Schedul2)    |   |         |          |

|    |       | Test Step Dynamic   | Behaviour   |         |          |
|----|-------|---|---|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
| 21 |       | +ts_ChangeMIB_ValueTag  |   |         |          |
| 22 |       | +ts_Scheduling(p_CellId, 6, 22, p_Timing)   |   |         | 8.       |
| 23 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 24 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |
| 25 |       | <pre>+ts_Scheduling(p_CellId, 6, 23, p_Timing)</pre>  |   |         | 10.      |
| 26 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 27 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |
| 28 |       | +ts_Scheduling(p_CellId, 6, 19, p_Timing)   |   |         | 3.       |
| 29 |       | CMAC?CMAC_SYSINFO_C onfig_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 30 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType5, 2,<br>tcv_Segs.seg1))     |         | 4.       |
| 31 |       | +ts_Scheduling(p_CellId, 6, 21, p_Timing)   |   |         | 5.       |
| 32 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 33 |       | [LENGTH_OF(tcv_Seg s.seg2) <= 214]  |   |         |          |
| 34 |       | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType5,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 35 |       | [TRUE]  |   |         |          |
| 36 |       | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType5, 1,<br>tcv_Segs.seg2))      |         | 7.       |
| 37 |       | [tcv_Segs.segCount = 3]   |   |         |          |
| 38 |       | (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5 := (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5) MOD 4 + 1, tcv_MIB.sibSb_ReferenceList.[5].scheduling := c_SIB5_Schedul3) |   |         |          |
| 39 |       | +ts_ChangeMIB_ValueTag  |   |         |          |
| 40 |       | +ts_Scheduling(p_CellId, 6, 23, p_Timing)   |   |         | 10.      |
| 41 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 42 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |

|    | Test Step Dynamic Behaviour |   |  |         |          |  |  |
|----|-----------------------------|---|--|---------|----------|--|--|
| Nr | Label                       | Behaviour Description   | Constraints Ref  | Verdict | Comments |  |  |
| 43 |                             | +ts_Scheduling(p_CellId, 6, 19, p_Timing)   |  |         | 3.       |  |  |
| 44 |                             | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |  |  |
| 45 |                             | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType5, 3,<br>tcv_Segs.seg1))      |         | 4.       |  |  |
| 46 |                             | +ts_Scheduling(p_CellId, 6, 21, p_Timing)   |  |         | 5.       |  |  |
| 47 |                             | CMAC?CMAC_SYSINFO_C onfig_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |  |  |
| 48 |                             | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType5,<br>1, tcv_Segs.seg2)) |         | 7.       |  |  |
| 49 |                             | +ts_Scheduling(p_CellId, 6, 22, p_Timing)   |  |         | 8.       |  |  |
| 50 |                             | CMAC?CMAC_SYSINF<br>O_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |  |  |
| 51 |                             | [LENGTH_OF(tcv_Seg<br>s.seg3) <= 214]   |  |         |          |  |  |
| 52 |                             | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType5,<br>2, tcv_Segs.seg3))  |         | 9.       |  |  |
| 53 |                             | [TRUE]  |  |         |          |  |  |
| 54 |                             | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType5, 2,<br>tcv_Segs.seg3))       |         | 9.       |  |  |
| 55 |                             | [tcv_Segs.segCount = 4]   |  |         |          |  |  |
| 56 |                             | (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5 := (tcv_MIB.sibSb_ReferenceList.[5].sibSb_Type .sysInfoType5) MOD 4 + 1, tcv_MIB.sibSb_ReferenceList.[5].scheduling := c_SIB5_Schedul4) |  |         |          |  |  |
| 57 |                             | +ts_ChangeMIB_ValueTag  |  |         |          |  |  |
| 58 |                             | +ts_Scheduling(p_CellId, 6, 19, p_Timing)   |  |         | 3.       |  |  |
| 59 |                             | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |  |  |
| 60 |                             | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType5, 4,<br>tcv_Segs.seg1))      |         | 4.       |  |  |
| 61 |                             | +ts_Scheduling(p_CellId, 6, 21, p_Timing)   |  |         | 5.       |  |  |
| 62 |                             | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |  |  |

|    |       | Test Step Dynamic                         | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description                     | Constraints Ref  | Verdict | Comments |
| 63 |       | TM!RLC_TR_DATA_REQ                        | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType5,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 64 |       | +ts_Scheduling(p_CellId, 6, 22, p_Timing) |  |         | 8.       |
| 65 |       | CMAC?CMAC_SYSINFO_C<br>onfig_CNF          | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 66 |       | TM!RLC_TR_DATA_REQ                        | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType5,<br>2, tcv_Segs.seg3)) |         | 9.       |
| 67 |       | +ts_Scheduling(p_CellId, 6, 23, p_Timing) |  |         | 10.      |
| 68 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF          | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 69 |       | [LENGTH_OF(tcv_Seg<br>s.seg4) <= 214]     |  |         |          |
| 70 |       | TM!RLC_TR_DATA_<br>REQ                    | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType5,<br>3, tcv_Segs.seg4))  |         | 11.      |
| 71 |       | [TRUE]                                    |  |         |          |
| 72 |       | TM!RLC_TR_DATA_<br>REQ                    | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType5, 3,<br>tcv_Segs.seg4))       |         | 11.      |
|    |       | lt_CompleteSIB(p_SIBType : SIB_Type)      |  |         |          |
| 73 |       | [LENGTH_OF(tcv_Segs.seg1) = 226]          |  |         |          |
| 74 |       | TM!RLC_TR_DATA_REQ                        | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))                               |         | 4.       |
| 75 |       | [TRUE]                                    |  |         |          |
| 76 |       | TM!RLC_TR_DATA_REQ                        | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1))                          |         | 4.       |

- **Detailed Comments**: 1. Unaligned PER encoding of the SIB5 then segmentation.
  - 2. The result of segmentation shall be less that 5 segments for the SIB5 ( current assumption).
  - 3. Send the scheduling info segment to SS. one segment: REP=64, POS=19.
  - 4. Construct the system information message containing the first segment of SIB5 and send it to
  - 5. Send the scheduling info segment to SS. one segment: REP=64, POS=21.
  - 6. Send no segment system information message to SS.
  - 7. Construct the system information message containing the second segment of SIB5 and send it
  - 8. Send the scheduling info to SS. one segment: REP=64, POS=22.
  - 9. Construct thesystem information message containing the third segment of SIB5 and send it to
  - 10. Send the scheduling info to SS. one segment: REP=64, POS=23.
  - 11. Construct the system information message containing the fourth segment of SIB5 and send it to SS.

Test Step Name : ts\_SendSIB6(p\_SIB: SysInfoType6; p\_CellId: INTEGER; p\_Timing: INTEGER)

**Group** : BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIBType6 to SS

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | (tcv_Segs :=   |   |         | 1.       |
|    |       | o_SIB_Segmentation(o_SIB_PER_Encoding (<br>sIB6: p_SIB)))  |   |         |          |
| 2  |       | [tcv_Segs.segCount >4]   |   | 1       | 2.       |
| 3  |       | [tcv_Segs.segCount <=4]  |   |         |          |
| 4  |       | [tcv_Segs.segCount = 1]  |   |         |          |
| 5  |       | (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl<br>nfoType6 :=  |   |         |          |
|    |       | (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl   |   |         |          |
|    |       | nfoType6) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[0].scheduling :=  |   |         |          |
|    |       | c_SIB6_Schedul1)   |   |         |          |
| 6  |       | +ts_ChangeSB1_ValueTag   |   |         |          |
| 7  |       | +ts_Scheduling(p_CellId, 6, 3, p_Timing)   |   |         | 3.       |
| 8  |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 9  |       | <pre>+lt_CompleteSIB(systemInformationBl<br/>ockType6)</pre>   |   |         | 4.       |
| 10 |       | +ts_Scheduling(p_CellId, 6, 5, p_Timing)   |   |         | 5.       |
| 11 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 12 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 13 |       | +ts_Scheduling(p_CellId, 6, 6, p_Timing)   |   |         | 8.       |
| 14 |       | CMAC?CMAC_SYSINFO_C<br>onfig_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 15 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 16 |       | +ts_Scheduling(p_CellId,<br>6, 7, p_Timing)  |   |         | 10.      |
| 17 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)                         |         |          |
| 18 |       | TM!RLC_TR_DATA_RE<br>Q   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment) |         | 6.       |
| 19 |       | [tcv_Segs.segCount = 2]  |   |         |          |
| 20 |       | <pre>(tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl nfoType6 := (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl</pre> |   |         |          |
|    |       | nfoType6) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[0].scheduling :=<br>c_SIB6_Schedul2)                          |   |         |          |
| 21 |       | +ts_ChangeSB1_ValueTag   |   |         |          |
| 22 |       | +ts_Scheduling(p_CellId, 6, 6, p_Timing)   |   |         | 8.       |

|    |       | Test Step Dynamic  | Behaviour   |         |          |
|----|-------|--|---|---------|----------|
| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
| 23 |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 24 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |
| 25 |       | <pre>+ts_Scheduling(p_CellId, 6, 7, p_Timing)</pre>  |   |         | 10.      |
| 26 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 27 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |
| 28 |       | +ts_Scheduling(p_CellId, 6, 3, p_Timing)   |   |         | 3.       |
| 29 |       | CMAC?CMAC_SYSINFO_C onfig_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 30 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType6, 2,<br>tcv_Segs.seg1))     |         | 4.       |
| 31 |       | +ts_Scheduling(p_CellId, 6, 5, p_Timing)   |   |         | 5.       |
| 32 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 33 |       | [LENGTH_OF(tcv_Seg s.seg2) <= 214]   |   |         |          |
| 34 |       | TM!RLC_TR_DATA_<br>REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType6,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 35 |       | [TRUE]   |   |         |          |
| 36 |       | TM!RLC_TR_DATA_<br>REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType6, 1,<br>tcv_Segs.seg2))      |         | 7.       |
| 37 |       | [tcv_Segs.segCount = 3]  |   |         |          |
| 38 |       | (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl<br>nfoType6 :=<br>(tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl<br>nfoType6) MOD 4 + 1,<br>tcv_SB1.sib_ReferenceList.[0].scheduling :=<br>c_SIB6_Schedul3) |   |         |          |
| 39 |       | +ts_ChangeSB1_ValueTag   |   |         |          |
| 40 |       | +ts_Scheduling(p_CellId, 6, 7, p_Timing)   |   |         | 10.      |
| 41 |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 42 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgNoSegment)   |         | 6.       |
| 43 |       | <pre>+ts_Scheduling(p_CellId, 6, 3, p_Timing)</pre>  |   |         | 3.       |

|    |       | Test Step Dynamic   | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
| 44 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 45 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType6, 3,<br>tcv_Segs.seg1))      |         | 4.       |
| 46 |       | +ts_Scheduling(p_CellId, 6, 5, p_Timing)  |  |         | 5.       |
| 47 |       | CMAC?CMAC_SYSINFO_C onfig_CNF   | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 48 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType6,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 49 |       | +ts_Scheduling(p_CellId, 6, 6, p_Timing)  |  |         | 8.       |
| 50 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 51 |       | [LENGTH_OF(tcv_Seg s.seg3) <= 214]  |  |         |          |
| 52 |       | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType6,<br>2, tcv_Segs.seg3))  |         | 9.       |
| 53 |       | [TRUE]  |  |         |          |
| 54 |       | TM!RLC_TR_DATA_<br>REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType6, 2,<br>tcv_Segs.seg3))       |         | 9.       |
| 55 |       | [tcv_Segs.segCount = 4]   |  |         |          |
| 56 |       | (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl  |  |         |          |
|    |       | <pre>nfoType6 :=   (tcv_SB1.sib_ReferenceList.[0].sib_Type.sysl   nfoType6) MOD 4 + 1,   tcv_SB1.sib_ReferenceList.[0].scheduling :=   c_SIB6_Schedul4)</pre> |  |         |          |
| 57 |       | +ts_ChangeSB1_ValueTag  |  |         |          |
| 58 |       | +ts_Scheduling(p_CellId, 6, 3, p_Timing)  |  |         | 3.       |
| 59 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 60 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgFirst(systemInf<br>ormationBlockType6, 4,<br>tcv_Segs.seg1))      |         | 4.       |
| 61 |       | +ts_Scheduling(p_CellId, 6, 5, p_Timing)  |  |         | 5.       |
| 62 |       | CMAC?CMAC_SYSINFO_Config<br>_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |

|    |       | Test Step Dynamic                           | Behaviour  |         |          |
|----|-------|---|--|---------|----------|
| Nr | Label | Behaviour Description                       | Constraints Ref  | Verdict | Comments |
| 63 |       | TM!RLC_TR_DATA_REQ                          | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType6,<br>1, tcv_Segs.seg2)) |         | 7.       |
| 64 |       | +ts_Scheduling(p_CellId, 6, 6, p_Timing)    |  |         | 5.       |
| 65 |       | CMAC?CMAC_SYSINFO_C<br>onfig_CNF            | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 66 |       | TM!RLC_TR_DATA_REQ                          | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgSubsequent(sys<br>temInformationBlockType6,<br>2, tcv_Segs.seg3)) |         | 7.       |
| 67 |       | +ts_Scheduling(p_CellId,<br>6, 7, p_Timing) |  |         | 10.      |
| 68 |       | CMAC?CMAC_SYSINF<br>O_Config_CNF            | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 69 |       | [LENGTH_OF(tcv_Seg<br>s.seg4) <= 214]       |  |         |          |
| 70 |       | TM!RLC_TR_DATA_<br>REQ                      | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLastShort(syst<br>emInformationBlockType6,<br>3, tcv_Segs.seg4))  |         | 11.      |
| 71 |       | [TRUE]                                      |  |         |          |
| 72 |       | TM!RLC_TR_DATA_<br>REQ                      | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgLast(systemInf<br>ormationBlockType6, 3,<br>tcv_Segs.seg4))       |         | 11.      |
|    |       | lt_CompleteSIB(p_SIBType : SIB_Type)        |  |         |          |
| 73 |       | [LENGTH_OF(tcv_Segs.seg1) = 226]            |  |         |          |
| 74 |       | TM!RLC_TR_DATA_REQ                          | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))                               |         | 4.       |
| 75 |       | [TRUE]                                      |  |         |          |
| 76 |       | TM!RLC_TR_DATA_REQ                          | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1))                          |         | 4.       |

- **Detailed Comments**: 1. Unaligned PER encoding of the SIB6 then segmentation.
  - 2. The result of segmentation shall be one or two or three or four segments for the SIB6 ( current assumption).
  - 3. Send the scheduling info to SS. one segment: REP=64, POS=3.
  - 4. Construct the system information message containing the first segment of SIB6 and send it to SS.
  - 5. Send the scheduling infot to SS. one segment: REP=64, POS=5.
  - 6. Send no segment system information message to SS.
  - 7. Construct the system information message containing the second segment of SIB6 and send it to SS.
  - 8. Send the scheduling info to SS. one segment: REP=64, POS=6.
  - 9. Construct the system information message containing the third segment of SIB6 and send it to
  - 10. Send the scheduling info to SS. one segment: REP=64, POS=7.
  - 11. Construct the system information message containing the fourth segment of SIB6 and send it to SS.

 $\textbf{Test Step Name} \quad : \ ts\_SendSIB7(p\_SIB: \ SysInfoType7; \ p\_CellId: \ INTEGER; \ p\_Timing: \ INTEGER)$ 

**Group** : BasicM\_SysInfoHandling\_Steps/Default/

**Objective**: To deliver the SIB7 to SS

Default : InitOtherwiseFail

Comments : single SIB7 or concatenated with SIB3 or SIB4 or SIB18, default scheduling described in 3GPP TS

34.123-3 clause 8.4.3

Description :

| Nr | Label | Behaviour Description   | Constraints Ref  | Verdict | Comments |
|----|-------|---|--|---------|----------|
| 1  |       | (tcv_Segs := o_SIB_Segmentation(o_SIB_PER_Encoding ( sIB7 : p_SIB)), tcv_SIB7 := p_SIB)                       |  |         | 1.       |
| 2  |       | [tcv_Segs.segCount <>1]   |  | I       | 2.       |
| 3  |       | [tcv_Segs.segCount =1]  |  |         |          |
| 4  |       | +ts_Scheduling(p_CellId, 6, 2, p_Timing)  |  |         | 3.       |
| 5  |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 6  |       | +lt_CompleteSIB(systemInformationBlockTy pe7)   |  |         | 4.       |
| 7  |       | +lt_ConcatWithSIB3  |  |         |          |
| 8  |       | +lt_ConcatWithSIB18   |  |         |          |
| 9  |       | +lt_ConcatWithSIB4  |  |         |          |
|    |       | It_CompleteSIB(p_SIBType : SIB_Type)  |  |         |          |
| 10 |       | [LENGTH_OF(tcv_Segs.seg1) = 226]  |  |         |          |
| 11 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl(<br>p_SIBType, tcv_Segs.seg1))   |         | 4.       |
| 12 |       | [TRUE]  |  |         |          |
| 13 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1))  |         | 4.       |
|    |       | It_ConcatWithSIB3   |  |         |          |
| 14 |       | (tcv_Segs.seg1 := o_SIB_PER_Encoding ( sIB7 : p_SIB), tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB3 : tcv_SIB3)) |  |         | 5.       |
| 15 |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201]   |  | 1       | 6.       |
| 16 |       | [TRUE]  |  |         |          |
| 17 |       | +ts_Scheduling(p_CellId, 6, 10, p_Timing)   |  |         | 7.       |
| 18 |       | CMAC?CMAC_SYSINFO_Config_CNF  | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)  |         |          |
| 19 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType<br>7, tcv_Segs.seg1,<br>systemInformationBlockType<br>3, tcv_Segs.seg2)) |         | 8.       |
|    |       | It_ConcatWithSIB18  |  |         |          |
| 20 |       | ( tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB18<br>: tcv_SIB18))  |  |         | 9.       |

|    |       | Test Step Dynamic   | Behaviour   |         |          |
|----|-------|---|---|---------|----------|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments |
| 21 |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201] |   | I       | 10.      |
| 22 |       | [TRUE]  |   |         |          |
| 23 |       | +ts_Scheduling(p_CellId, 6, 18, p_Timing)                       |   |         | 11.      |
| 24 |       | CMAC?CMAC_SYSINFO_Config_CNF                                    | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 25 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType<br>7, tcv_Segs.seg1,<br>systemInformationBlockType<br>18, tcv_Segs.seg2)) |         | 12.      |
|    |       | lt_ConcatWithSIB4   |   |         |          |
| 26 |       | ( tcv_Segs.seg2 := o_SIB_PER_Encoding ( sIB4 : tcv_SIB4))       |   |         | 13.      |
| 27 |       | [(LENGTH_OF(tcv_Segs.seg1) +<br>LENGTH_OF(tcv_Segs.seg2)) >201] |   | I       | 14.      |
| 28 |       | [TRUE]  |   |         |          |
| 29 |       | +ts_Scheduling(p_CellId, 6, 26, p_Timing)                       |   |         | 15.      |
| 30 |       | CMAC?CMAC_SYSINFO_Config_CNF                                    | ca_SysInfoCfgCnf(p_CellId, tsc_RB_BCCH)   |         |          |
| 31 |       | TM!RLC_TR_DATA_REQ  | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList2(<br>systemInformationBlockType<br>7, tcv_Segs.seg1,<br>systemInformationBlockType<br>4, tcv_Segs.seg2))  |         | 16.      |

- Detailed Comments: 1. save the new value of SIB7, unaligned PER encoding of the SIB7 then segmentation.
  - 2. The result of segmentation shall be one segment for the SIB7 (current assumption).
  - 3. Send the scheduling info to SS. one segment: REP=64, POS=2.
  - 4. Construct the system information message containing SIB7 and send it to SS.
  - 5. unaligned PER encoding of the SIB7 and SIB3.
  - 6. concateneted SIB7 and SIB3 is too long.
  - 7. Send the scheduling info to SS. one segment: REP=64, POS=10.
  - 8. Construct the system information message containing SIB7 + SIB3 and send it to SS.
  - 9. unaligned PER encoding of the SIB18.
  - 10. concatenated SIB7 and SIB18 is too long.
  - 11. Send the scheduling info to SS. one segment: REP=64, POS=18.
  - 12. Construct the system information message containing SIB7 + SIB18 and send it to SS.
  - 13. unaligned PER encoding of the SIB4.
  - 14. concatenated SIB7 and SIB4 is too long.
  - 15. Send the scheduling info to SS. one segment: REP=64, POS=26.
  - 16. Construct the system information message containing SIB7 + SIB4 and send it to SS.

In system information broadcasting, SIB7 is concatinated with SIB3, SIB4, and SIB18, the assignment tcv\_SIB7 := p\_SIB in line 1 is to provide a communication mechanism between ts\_SendSIB7 and ts\_SendSIB4, ts\_SendSIB3, ts\_SendSIB18. Normally the ts\_SendSIB7 is called in the preamble part of the test case to establish the default system information broadcasting. If in the test body the contents of SIB7 need be changed and afterards SIB3 or SIB4 or SIB18 needs also be changed, the ts\_SendSIB7 will be called again with a new SIB7 value and ts\_SendSIB3 or ts\_SendSIB4 or ts\_SendSIB18 will also be called again with new SIB value, in the new call of ts\_SendSIB3 or ts\_SendSIB4 or ts\_SendSIB18 new SIB7 value, which was used in the new call of ts\_SendSIB7, shall be used. the assignment tcv\_SIB7 := p\_SIB in line 1 is to provide this new value for ts\_SendSIB3 or ts\_SendSIB4 or ts\_SendSIB18.

 $\textbf{Test Step Name} \quad : \ \, \text{ts\_CellDependentPara} \ \, ( \ \, \text{p\_CellID} : \text{INTEGER} \, )$ 

Group : BasicM\_SysInfoHandling\_Steps/
Objective : To set cell dependent parameters

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments        |
|----|-------|---|-----------------|---------|-----------------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellID )  |                 |         |                 |
| 2  |       | [p_CellID = tsc_CellA]  |                 |         |                 |
| 3  |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellA,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellA) |                 |         |                 |
| 4  |       | [p_CellID = tsc_CellB]  |                 |         |                 |
| 5  |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellB,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellB) |                 |         |                 |
| 6  |       | [p_CellID = tsc_CellC]  |                 |         |                 |
| 7  |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellC,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellC) |                 |         |                 |
| 8  |       | [p_CellID = tsc_CellD]  |                 |         |                 |
| 9  |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellD, tcv_SIB4.cellIdentity := tsc_CellIdCellD)    |                 |         |                 |
| 10 |       | [p_CellID = tsc_CellE]  |                 |         |                 |
| 11 |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellE,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellE) |                 |         |                 |
| 12 |       | [p_CellID = tsc_CellF]  |                 |         |                 |
| 13 |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellF,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellF) |                 |         |                 |
| 14 |       | [p_CellID = tsc_CellG]  |                 |         |                 |
| 15 |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellG,<br>tcv_SIB4.cellIdentity := tsc_CellIdCellG) |                 |         |                 |
| 16 |       | [p_CellID = tsc_CellH]  |                 |         |                 |
| 17 |       | (tcv_SIB3.cellIdentity := tsc_CellIdCellH, tcv_SIB4.cellIdentity := tsc_CellIdCellH)    |                 |         |                 |
| 18 |       | [TRUE]  |                 | I       | no such<br>cell |

**Detailed Comments:** 

Test Step Name : ts\_ChangeMIB\_ValueTag

Group : BasicM\_SysInfoHandling\_Steps/

**Objective**: To increment MIBValueTag if tcv\_MIB\_ValueTagChanged = FALSE.

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [tcv_MIB_ValueTagChanged = FALSE]   |                 |         |          |
| 2  |       | ( tcv_MIB.mib_ValueTag := (<br>tcv_MIB.mib_ValueTag) MOD 8 + 1,<br>tcv_MIB_ValueTagChanged := TRUE) |                 |         |          |
| 3  |       | [tcv_MIB_ValueTagChanged = TRUE]  |                 |         |          |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_ChangeSB1\_ValueTag

Group : BasicM\_SysInfoHandling\_Steps/

**Objective**: To increment SB1ValueTag if tcv\_SB1\_ValueTagChanged = FALSE.

Default : InitOtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description   | Constraints Ref | Verdict | Comments |
|----|-------|---|-----------------|---------|----------|
| 1  |       | [tcv_SB1_ValueTagChanged = FALSE]   |                 |         |          |
| 2  |       | (tcv_SB1_ValueTag := (tcv_MIB.sibSb_ReferenceList.[0].sibSb_Type.sy sInfoTypeSB1) MOD 4 + 1, tcv_MIB.sibSb_ReferenceList.[0].sibSb_Type.sys InfoTypeSB1 := tcv_SB1_ValueTag, tcv_SB1_ValueTagChanged := TRUE) |                 |         |          |
| 3  |       | +ts_ChangeMIB_ValueTag  |                 |         |          |
| 4  |       | [TRUE]  |                 |         |          |

**Detailed Comments:** 

 $\textbf{Test Step Name} \quad \textbf{:} \ \, \text{ts\_Scheduling}(p\_CellId: \ \, \text{INTEGER}; \ p\_REP: \ \, \text{INTEGER}; \ p\_POS: \ \, \text{INTEGER}; \ p\_Timing: \ \, \text{INTEGER})$ 

**Group** : BasicM\_SysInfoHandling\_Steps/

Objective :

Default : InitOtherwiseFail

Comments : Description :

| Label | Behaviour Description             | Constraints Ref  | Verdict  | Comments   |
|-------|-----------------------------------|--|--|--|
|       | (tcv_BCCH_ModifyTime := p_Timing) |  |  |  |
|       | [p_Timing >= 512]                 |  |  |  |
|       | CMAC!CMAC_SYSINFO_Config_REQ      | ca_SchedulNow ( p_CellId, p_REP, p_POS )   |  |  |
|       | [p_Timing <= 511]                 |  |  |  |
|       | CMAC!CMAC_SYSINFO_Config_REQ      | ca_SchedulLater(p_CellId, p_REP, p_POS, p_Timing)  |  |  |
|       | Label                             | (tcv_BCCH_ModifyTime := p_Timing) [p_Timing >= 512] CMAC!CMAC_SYSINFO_Config_REQ [p_Timing <= 511] | (tcv_BCCH_ModifyTime := p_Timing)  [p_Timing >= 512]  CMAC!CMAC_SYSINFO_Config_REQ  ca_SchedulNow ( p_CellId, p_REP, p_POS )  [p_Timing <= 511]  CMAC!CMAC_SYSINFO_Config_REQ  ca_SchedulLater(p_CellId, | (tcv_BCCH_ModifyTime := p_Timing)  [p_Timing >= 512]  CMAC!CMAC_SYSINFO_Config_REQ  ca_SchedulNow ( p_CellId, p_REP, p_POS )  [p_Timing <= 511]  CMAC!CMAC_SYSINFO_Config_REQ  ca_SchedulLater(p_CellId, |

Detailed Comments :

**Test Step Name**: ts\_SendMIB(p\_MIB: MasterInformationBlock; p\_CellId : INTEGER; p\_Timing: INTEGER)

Group : BasicM\_SysInfoHandling\_Steps/

Objective : To deliver the MIB to SS

Default : InitOtherwiseFail

Comments Description

| Nr | Label | Behaviour Description  | Constraints Ref   | Verdict | Comments |
|----|-------|--|---|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |   |         |          |
| 2  |       | ( tcv_MIB.plmn_Type.gsm_MAP.plmn_Identity.mc c := o_HexToDigitsMCC ( tcv_TmpCellInfo.mcc), |   |         |          |
|    |       | tcv_MIB.plmn_Type.gsm_MAP.plmn_Identity.mn c := o_HexToDigitsMNC ( tcv_TmpCellInfo.mnc )   |   |         |          |
|    |       |  |   |         |          |
| 3  |       | <pre>(tcv_Segs :=   o_SIB_Segmentation(o_SIB_PER_Encoding (   mIB : tcv_MIB)))</pre>       |   |         | 1.       |
| 4  |       | [tcv_Segs.segCount <>1]  |   | 1       | 2.       |
| 5  |       | [tcv_Segs.segCount =1]   |   |         |          |
| 6  |       | +ts_Scheduling(p_CellId, 3, 0, p_Timing)   |   |         | 3.       |
| 7  |       | CMAC?CMAC_SYSINFO_Config_CNF   | ca_SysInfoCfgCnf<br>(p_CellId, tsc_RB_BCCH)   |         |          |
| 8  |       | +lt_CompleteSIB(masterInformationBloc k)   |   |         | 4.       |
| 9  |       | (tcv_MIB_ValueTagChanged := FALSE)   |   |         |          |
|    |       | It_CompleteSIB(p_SIBType : SIB_Type)   |   |         |          |
| 10 |       | [LENGTH_OF(tcv_Segs.seg1) = 226]   |   |         |          |
| 11 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmpl (<br>p_SIBType, tcv_Segs.seg1))     |         | 4.       |
| 12 |       | [TRUE]   |   |         |          |
| 13 |       | TM!RLC_TR_DATA_REQ   | ca_TR_DataReq(p_CellId,<br>tsc_RB_BCCH,<br>cs_SIB_MsgCmplList1(<br>p_SIBType, tcv_Segs.seg1)) |         | 4.       |

- **Detailed Comments**: 1. Unaligned PER encoding of the MIB then segmentation.
  - 2. The result of segmentation shall be one segment for the MIB ( current assumption).
  - 3. Send the scheduling info to SS.(one segment; REP=8; POS=0)
  - 4. Construct the system information message containing MIB and sent to SS.

 $\textbf{Test Step Name} \quad : \ \, \text{ts\_UTRAN\_GERAN\_ParaInit} \ ( \ \, \text{p\_CellId: INTEGER} \ )$ 

Group : BasicM\_SysInfoHandling\_Steps/

**Objective** : Initialize default parameters for different region

Default : InitOtherwiseFail

Comments : currently only UTRAN and UTRAN/GERAN are defined

Description :

| Nr | Label | Behaviour Description  | Constraints Ref | Verdict | Comments |
|----|-------|--|-----------------|---------|----------|
| 1  |       | + ts_SetTmpCellInfo ( p_CellId )   |                 |         |          |
| 2  |       | [px_UTRAN_GERAN = "UTRAN and GERAN"]   |                 |         |          |
| 3  |       | (tcv_SIB3 := cb_SIB3_DefUTRAN_GERAN ( tcv_TmpCellInfo), tcv_SIB4 := cb_SIB4_DefUTRAN_GERAN ( tcv_TmpCellInfo)) |                 |         |          |
| 4  |       | [px_UTRAN_GERAN = "UTRAN only"]  |                 |         |          |
| 5  |       | (tcv_SIB3 := cb_SIB3_DefUTRAN ( tcv_TmpCellInfo), tcv_SIB4 := cb_SIB4_DefUTRAN ( tcv_TmpCellInfo))             |                 |         |          |
| 6  |       | [TRUE]   |                 | I       |          |

**Detailed Comments:** 

Test Step Name : ts\_TC\_ActivateRB\_TestMode (p\_CellId: INTEGER )

Group : BasicM\_TC\_Steps/

Objective : Activate UE radio bearer test mode.

Default : NAS\_OtherwiseFailActRB\_TM

Comments : tcv\_TestModeActivated is assigned to TRUE to keep track that RB test mode has been activated

during the test case; to be used in the postamble.

Description :

**Detailed Comments:** 

| Nr | Label | Behaviour Description                 | Constraints Ref   | Verdict | Comments           |
|----|-------|---------------------------------------|---|---------|--------------------|
| 1  |       | [ tcv_CN_Domain = cs_domain ]         |   |         |                    |
| 2  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_DataReq (<br>tsc_CellDedicated, tsc_RB3,<br>c_ActivateRB_TestMode)                       |         |                    |
| 3  | TSP1  | Dc?RRC_DataInd CANCEL t_Dly           | car_UplinkDirectTransfer (<br>tsc_CellDedicated, tsc_RB3,<br>c_ActivateRB_TestModeCm<br>pl) | (P)     |                    |
| 4  |       | ( tcv_RB_TestModeActivated := TRUE )  |   |         | 1.                 |
| 5  | TSF1  | ?TIMEOUT t_Dly                        |   | (F)     | no                 |
|    |       |                                       |   |         | answer<br>received |
| 6  |       | [ tcv_CN_Domain = ps_domain ]         |   |         |                    |
| 7  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_PS_DataReq ( tsc_CellDedicated, tsc_RB3, c_ActivateRB_TestMode)                          |         |                    |
| 8  | TSP2  | Dc?RRC_DataInd CANCEL t_Dly           | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, c_ActivateRB_TestModeCm pl)      | (P)     |                    |
| 9  |       | ( tcv_RB_TestModeActivated := TRUE )  |   |         | 1.                 |
| 10 | TSF2  | ?TIMEOUT t_Dly                        |   | (F)     | no                 |
|    |       |                                       |   |         | answer             |
|    |       |                                       |   |         | received           |

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 $\begin{tabular}{ll} \textbf{Test Step Name} &: ts\_TC\_CloseUE\_TestLoop(p\_CellId: INTEGER; p\_UE\_TestLoopMode: UE\_TestLoopMode: UE\_TestLoopMode: UE\_TestLoopMode1LB\_Setup) \\ \end{tabular}$ 

Group : BasicM\_TC\_Steps/ Objective : Close UE test loop Default : NAS\_OtherwiseFail

Comments Description

**Detailed Comments:** 

| Nr | Label | Behaviour Description                 | Constraints Ref  | Verdict | Comments                 |
|----|-------|---------------------------------------|--|---------|--------------------------|
| 1  |       | [tcv_CN_Domain = cs_domain]           |  |         |                          |
| 2  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_DataReq( tsc_CellDedicated, tsc_RB3,c_CloseUE_TestLo op(p_UE_TestLoopMode, p_UE_TestLoopMode1LB_ Setup))    |         |                          |
| 3  | TSP1  | Dc?RRC_DataInd CANCEL t_Dly           | car_UplinkDirectTransfer (<br>tsc_CellDedicated, tsc_RB3,<br>c_CloseUE_TestLoopCmpl )                          | (P)     |                          |
| 4  | TSF1  | ?TIMEOUT t_Dly                        |  | (F)     | no<br>answer<br>received |
| 5  |       | [ tcv_CN_Domain = ps_domain ]         |  |         |                          |
| 6  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_PS_DataReq( tsc_CellDedicated, tsc_RB3,c_CloseUE_TestLo op(p_UE_TestLoopMode, p_UE_TestLoopMode1LB_ Setup)) |         |                          |
| 7  | TSP2  | Dc?RRC_DataInd CANCEL t_Dly           | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, c_CloseUE_TestLoopCmpl )                            | (P)     |                          |
| 8  | TSF2  | ?TIMEOUT t_Dly                        |  | (F)     | no<br>answer<br>received |

 $\textbf{Test Step Name} \quad : \ ts\_TC\_DeactivateRB\_TestMode(p\_CellId: INTEGER \ )$ 

Group : BasicM\_TC\_Steps/

**Objective**: Deactivate UE radio bearer test mode

**Default**: NAS\_OtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description                 | Constraints Ref   | Verdict | Comments                 |
|----|-------|---------------------------------------|---|---------|--------------------------|
| 1  |       | [ tcv_CN_Domain = cs_domain ]         |   |         |                          |
| 2  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_DataReq( tsc_CellDedicated, tsc_RB3,c_DeactivateRB_Te stMode)                          |         |                          |
| 3  | TSP1  | Dc?RRC_DataInd CANCEL t_Dly           | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, c_DeactivateRB_TestModeC mpl )     | (P)     |                          |
| 4  | TSF1  | ?TIMEOUT t_Dly                        |   | (F)     | no<br>answer<br>received |
| 5  |       | [ tcv_CN_Domain = ps_domain ]         |   |         |                          |
| 6  |       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_PS_DataReq( tsc_CellDedicated, tsc_RB3,c_DeactivateRB_Te stMode)                       |         |                          |
| 7  | TSP2  | Dc?RRC_DataInd CANCEL t_Dly           | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, c_DeactivateRB_TestModeC mpl ) | (P)     |                          |
| 8  | TSF2  | ?TIMEOUT t_Dly                        |   | (F)     | no<br>answer<br>received |

**Detailed Comments:** 

Test Step Name : ts\_TC\_OpenUE\_TestLoop( p\_CellId: INTEGER)

Group : BasicM\_TC\_Steps/
Objective : Open UE test loop
Default : NAS\_OtherwiseFail

Comments : Description :

| Label | Behaviour Description                 | Constraints Ref   | Verdict  | Comments  |
|-------|---------------------------------------|---|--|---|
|       | [ tcv_CN_Domain = cs_domain ]         |   |  |   |
|       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_DataReq(<br>tsc_CellDedicated,<br>tsc_RB3,c_OpenUE_TestLo<br>op)   |  |   |
| TSP1  | Dc?RRC_DataInd CANCEL t_Dly           | car_UplinkDirectTransfer (<br>tsc_CellDedicated, tsc_RB3,<br>c_OpenUE_TestLoopCmpl )  | (P)  |   |
| TSF1  | ?TIMEOUT t_Dly                        |   | (F)  | no<br>answer<br>received  |
|       | [ tcv_CN_Domain = ps_domain ]         |   |  |   |
|       | Dc!RRC_DataReq START t_Dly (tsc_TT01) | ca_PS_DataReq(<br>tsc_CellDedicated,<br>tsc_RB3,c_OpenUE_TestLo<br>op)  |  |   |
| TSP2  | Dc?RRC_DataInd CANCEL t_Dly           | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated, tsc_RB3, c_OpenUE_TestLoopCmpl )  | (P)  |   |
| TSF2  | ?TIMEOUT t_Dly                        |   | (F)  | no<br>answer  |
|       | TSP1 TSF1                             | [tcv_CN_Domain = cs_domain] Dc!RRC_DataReq START t_Dly (tsc_TT01)  TSP1 Dc?RRC_DataInd CANCEL t_Dly  TSF1 ?TIMEOUT t_Dly  [tcv_CN_Domain = ps_domain] Dc!RRC_DataReq START t_Dly (tsc_TT01)  TSP2 Dc?RRC_DataInd CANCEL t_Dly | [ tcv_CN_Domain = cs_domain ]  Dc!RRC_DataReq START t_Dly (tsc_TT01) | [ tcv_CN_Domain = cs_domain ]     Dc!RRC_DataReq START t_Dly (tsc_TT01) |

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_AT\_TriggerGMM\_Attach

Group : BasicM\_UT\_Steps/

Objective : Trigger UE to start GMM Attach procedure via AT command +CGATT

Default : UT\_OtherwiseFail

**Comments**: (see 3GPP 27.007 / 10.1.9)

Description :

| Nr  | Label               | Behaviour Description | Constraints Ref                           | Verdict | Comments |  |  |
|-----|---------------------|-----------------------|---|---------|----------|--|--|
| 1   |                     | Ut! AT_CmdReq         | ca_AT_CmdReq (<br>"AT+CGATT=1 <cr>")</cr> |         |          |  |  |
| 2   |                     | Ut ? AT_CmdCnf        | ca_AT_CmdCnf                              |         |          |  |  |
| Det | Detailed Comments : |                       |   |         |          |  |  |

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Test Step Name : ts\_MMI\_UE\_PwrOff
Group : BasicM\_UT\_Steps/

**Objective**: To make the operator power off the UE

Default : UT\_OtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description         | Constraints Ref                            | Verdict | Comments                |
|----|-------|-------------------------------|--|---------|-------------------------|
| 1  |       | [ tcv_UE_SwitchedOn = TRUE]   |  |         | UE is<br>ON             |
| 2  |       | Ut!MMI_CmdReq                 | ca_MMI_CmdReq ( "Please power off the UE") |         |                         |
| 3  |       | Ut ? MMI_CmdCnf               | ca_MMI_CmdCnf                              |         |                         |
| 4  |       | ( tcv_UE_SwitchedOn := FALSE) |  |         | UE is<br>now<br>OFF     |
| 5  |       | [ TRUE]                       |  |         | UE is<br>Already<br>OFF |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_MMI\_UE\_PwrOn
Group : BasicM\_UT\_Steps/

**Objective**: To make the operator power on the UE

Default : UT\_OtherwiseFail

Comments : Description :

| Nr   | Label               | Behaviour Description        | Constraints Ref                           | Verdict | Comments               |  |  |
|------|---------------------|------------------------------|---|---------|------------------------|--|--|
| 1    |                     | [ tcv_UE_SwitchedOn = FALSE] |   |         | UE is<br>OFF           |  |  |
| 2    |                     | Ut! MMI_CmdReq               | ca_MMI_CmdReq ( "Please power on the UE") |         |                        |  |  |
| 3    |                     | Ut ? MMI_CmdCnf              | ca_MMI_CmdCnf                             |         |                        |  |  |
| 4    |                     | ( tcv_UE_SwitchedOn := TRUE) |   |         | UE is<br>now ON        |  |  |
| 5    |                     | [ TRUE]                      |   |         | UE is<br>Already<br>ON |  |  |
| Deta | Detailed Comments : |                              |   |         |                        |  |  |

Test Step Name : ts\_MMI\_UE\_SwitchOff
Group : BasicM\_UT\_Steps/

**Objective**: To make the operator switch off the UE

Default : UT\_OtherwiseFail

Comments : Description :

| Nr | Label | Behaviour Description         | Constraints Ref                             | Verdict | Comments                |
|----|-------|-------------------------------|---|---------|-------------------------|
| 1  |       | [ tcv_UE_SwitchedOn = TRUE]   |   |         | UE is<br>ON             |
| 2  |       | Ut! MMI_CmdReq                | ca_MMI_CmdReq ( "Please switch off the UE") |         |                         |
| 3  |       | Ut ? MMI_CmdCnf               | ca_MMI_CmdCnf                               |         |                         |
| 4  |       | ( tcv_UE_SwitchedOn := FALSE) |   |         | UE is<br>now<br>OFF     |
| 5  |       | [ TRUE]                       |   |         | UE is<br>Already<br>OFF |

**Detailed Comments:** 

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_MMI\_UE\_SwitchOn
Group : BasicM\_UT\_Steps/

**Objective**: To make the operator switch on the UE

Default : UT\_OtherwiseFail

Comments : Description :

| Nr   | Label               | Behaviour Description        | Constraints Ref                            | Verdict | Comments               |  |  |
|------|---------------------|------------------------------|--|---------|------------------------|--|--|
| 1    |                     | [ tcv_UE_SwitchedOn = FALSE] |  |         | UE is<br>OFF           |  |  |
| 2    |                     | Ut!MMI_CmdReq                | ca_MMI_CmdReq ( "Please switch on the UE") |         |                        |  |  |
| 3    |                     | Ut ? MMI_CmdCnf              | ca_MMI_CmdCnf                              |         |                        |  |  |
| 4    |                     | ( tcv_UE_SwitchedOn := TRUE) |  |         | UE is<br>now ON        |  |  |
| 5    |                     | [ TRUE]                      |  |         | UE is<br>Already<br>ON |  |  |
| Deta | Detailed Comments : |                              |  |         |                        |  |  |

Test Step Name : ts\_MMI\_USIM\_Insert
Group : BasicM\_UT\_Steps/

Objective : To make the operator insert the USIM card

Default : UT\_OtherwiseFail

Comments : Description :

| Nr   | Label               | Behaviour Description | Constraints Ref  | Verdict | Comments |  |  |  |
|------|---------------------|-----------------------|--|---------|----------|--|--|--|
| 1    |                     | Ut! MMI_CmdReq        | ca_MMI_CmdReq ( "Please insert the USIM card into the UE") |         |          |  |  |  |
| 2    |                     | Ut ? MMI_CmdCnf       | ca_MMI_CmdCnf  |         |          |  |  |  |
| Deta | Detailed Comments : |                       |  |         |          |  |  |  |

# **Test Step Dynamic Behaviour**

Test Step Name : ts\_MMI\_USIM\_Remove
Group : BasicM\_UT\_Steps/

**Objective**: To make the operator remove the USIM card

**Default**: UT\_OtherwiseFail

Comments : Description :

| Nr   | Label               | Behaviour Description | Constraints Ref  | Verdict | Comments |  |  |  |
|------|---------------------|-----------------------|--|---------|----------|--|--|--|
| 1    |                     | Ut! MMI_CmdReq        | ca_MMI_CmdReq ( "Please remove the USIM card from the UE") |         |          |  |  |  |
| 2    |                     | Ut ? MMI_CmdCnf       | ca_MMI_CmdCnf  |         |          |  |  |  |
| Deta | Detailed Comments : |                       |  |         |          |  |  |  |

Default Name : InitOtherwiseFail
Group : Init\_Defaults/

Objective :

Comments : Handle any irrelevant sync/outsync indications during cell setup

Description :

| Label | Behaviour Description                    | Constraints Ref   | Verdict  | Comments   |
|-------|--|---|--|--|
|       | CPHY?CPHY_Sync_IND                       | ca_SyncInd (?)  |  |  |
|       | RETURN                                   |   |  |  |
|       | CPHY?CPHY_Out_of_Sync_IND                | ca_OutOfSyncInd (?)   |  |  |
|       | RETURN                                   |   |  |  |
|       | CRLC?CRLC_Integrity_Failure_IND          | car_CRLC_IntegrityFail  |  |  |
| DFF1  | [ tcv_CellIndInfo.integrityStarted ]     |   | (F)  |  |
|       | RETURN                                   |   |  |  |
|       | [ NOT tcv_CellIndInfo.integrityStarted ] |   |  |  |
|       | RETURN                                   |   |  |  |
|       | ?TIMEOUT                                 |   |  |  |
|       | [ tcv_TestBody = FALSE ]                 |   |  |  |
| DFI8  | CANCEL                                   |   | (I)  |  |
|       | [ tcv_TestBody = TRUE ]                  |   |  |  |
| DFF8  | CANCEL                                   |   | (F)  |  |
|       | DFF1                                     | CPHY?CPHY_Sync_IND RETURN CPHY?CPHY_Out_of_Sync_IND RETURN CRLC?CRLC_Integrity_Failure_IND  DFF1 [tcv_CellIndInfo.integrityStarted] RETURN [NOT tcv_CellIndInfo.integrityStarted] RETURN ?TIMEOUT [tcv_TestBody = FALSE]  DF18 CANCEL [tcv_TestBody = TRUE] | CPHY?CPHY_Sync_IND RETURN CPHY?CPHY_Out_of_Sync_IND RETURN CRLC?CRLC_Integrity_Failure_IND CRLC?CRLC_IntegrityStarted ] RETURN [NOT tcv_CellIndInfo.integrityStarted ] RETURN ?TIMEOUT [tcv_TestBody = FALSE ] CANCEL [tcv_TestBody = TRUE ] | CPHY?CPHY_Sync_IND RETURN CPHY?CPHY_Out_of_Sync_IND RETURN CRLC?CRLC_Integrity_Failure_IND  DFF1 [tcv_CellIndInfo.integrityStarted] RETURN [NOT tcv_CellIndInfo.integrityStarted] RETURN ?TIMEOUT [tcv_TestBody = FALSE]  DF18 CANCEL [tcv_TestBody = TRUE]  (ca_SyncInd (?)  ca_OutOfSyncInd (?)  ca_OutOfSyncInd (?)  (r)  ca_OutOfSyncInd (?)  ca_OutOf |

Default Name : NAS\_OtherwiseFail
Group : NAS\_Defaults/

**Objective**: To match unexpected events and fail the test case.

Comments : Description :

| -   | Label | Debestion Description  | Constraints D.C   | V/~ ==1! - 4 | C   |
|-----|-------|--|---|--------------|---|
| Nr  | Label | Behaviour Description  | Constraints Ref   | Verdict      | Comments  |
| 1 2 |       | ?TIMEOUT t_Guard Ut! MMI_CmdReq  | ca_MMI_CmdReq ( "The<br>guard timer has run out.<br>Please take appropriate<br>measures")                                 |              | 1.<br>4.  |
| 3   |       | Ut ? MMI_CmdCnf  | ca_MMI_CmdCnf   |              |   |
| 4   |       | [ tcv_TestBody = FALSE ]   |   |              |   |
| 5   | DFI1  | CANCEL   |   | (I)          |   |
| 6   |       | [ tcv_TestBody = TRUE ]  |   |              |   |
| 7   | DFF1  | CANCEL   |   | (F)          |   |
| 8   |       | Dc ? RRC_DataInd[tcv_MM_TestExecution]   | car_PS_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v,?)) |              | 6.  |
| 9   |       | Dc!RRC_DataReq   | ca_PS_DataReq ( tsc_CellDedicated, tsc_RB3, cs_AttachRej( '07'O))   |              | 7.  |
| 10  |       | RETURN   |   |              |   |
| 11  |       | ?TIMEOUT t_TimeoutInDefault  |   |              |   |
| 12  |       | (tcv_TimeoutInDefault := TRUE)   |   |              |   |
| 13  |       | RETURN   |   |              |   |
| 14  |       | ?TIMEOUT   |   |              |   |
| 15  |       | [ tcv_TestBody = FALSE ]   |   |              |   |
| 16  | DFI8  | CANCEL   |   | (I)          |   |
| 17  |       | [ tcv_TestBody = TRUE ]  |   |              |   |
| 18  | DFF8  | CANCEL   |   | (F)          |   |
| 19  |       | Dc ? RRC_DataInd [ tcv_GMM_AttachExpect = TRUE] ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.type, tcv_CellIndInfo.start_PS := RRC_DataInd.start , tcv_GMM_AttachRec := TRUE ) | car_PS_InitDirectTransfer (tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v, ?)) |              | ATTACH<br>REQUE<br>ST –<br>Extract<br>Attach<br>type<br>requeste<br>d |
| 20  |       | RETURN   |   |              |   |
| 21  |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = TRUE ]   | car_InitDirectTransfer ( tsc_CellDedicated , tsc_RB3, cr_ServiceRequest ( c_ServiceType_v(?), c_MobileIdAny_lv, ? )       |              | SERVIC<br>E<br>REQUE<br>ST  |
| 22  |       | RETURN   |   |              |   |
|     | L     |  | I.  | l .          |   |

|    |       | Default Dynamic I   | Behaviour   |         |   |
|----|-------|---|---|---------|---|
| Nr | Label | Behaviour Description   | Constraints Ref   | Verdict | Comments                                      |
| 23 |       | Dc ? RRC_DataInd [ tcv_GMM_RAU_Expect = TRUE ]( tcv_TmpRAU_ReqPDU := RRC_DataInd.msg, tcv_CellIndInfo.start_PS := RRC_DataInd.start , tcv_GMM_RAU_Rec := TRUE ) | car_PS_InitDirectTransfer ( tsc_CellDedicated , tsc_RB3, cbr_RA_UpdReqAny ( c_GMM_UpdateType_v(?,?) , c_RAI_Any_v, ?) |         | ROUTIN<br>G AREA<br>UPDAT<br>E<br>REQUE<br>ST |
| 24 |       | RETURN  | ,   |         |   |
| 25 |       | Dc ? RRC_DataInd [ tcv_GMM_DetachExpect = TRUE ]( tcv_GMM_DetachExpect := FALSE )   | car_PS_UplinkDirectTransfe r ( tsc_CellDedicated , tsc_RB3, cr_DetachRequest_MO )                                     |         | DETAC<br>H<br>REQUE<br>ST                     |
| 26 |       | RETURN  |   |         |   |
| 27 | DFI2  | Dc?OTHERWISE [ tcv_TestBody = FALSE ]   |   | (I)     | 2.  |
| 28 |       | CANCEL  |   |         | 3.  |
| 29 | DFF2  | Dc?OTHERWISE [ tcv_TestBody = TRUE ]  |   | (F)     | 5.  |
| 30 |       | CANCEL  |   |         | 3.  |
| 31 |       | CRLC?CRLC_Integrity_Failure_IND   | car_CRLC_IntegrityFail  |         |   |
| 32 | DFF3  | [ tcv_CellIndInfo.integrityStarted ]  |   | (F)     |   |
| 33 |       | RETURN  |   |         |   |
| 34 |       | [ NOT tcv_CellIndInfo.integrityStarted ]  |   |         |   |
| 35 |       | RETURN  |   |         |   |

- **Detailed Comments**: 1. The guard timer times out, inconclusive.
  - 2. If unexpectied data is received in the preambles or postambles, a preliminary inconclusive verdict is assigned, and the test case is terminated.
  - 3. Cancel of all running timers.
  - 4. Depending upon the context appropriate measures may differ: the guard timer duration may be increased, operator action during a test may be speeded up, ...
  - 5. If unexpected data is received in the test body, a preliminary failure verdict is assigned, and the test case is terminated.
  - 6. ATTACH REQUEST with any contents received during MM\_TestExecution
  - 7. ATTACH REJECT with cause 'GPRS services not allowed'
  - 8. DETACH REQUEST received during MM\_TestExecution
  - 9. DETACH ACCEPT

Default Name: NAS\_OtherwiseFailActRB\_TM

Group : NAS\_Defaults/

**Objective**: To match unexpected events and fail the test case.

Any Setup or Activate PDP context request message can be received and ignored.

Comments : Description :

| Nr | Label | Behaviour Description                                | Constraints Ref   | Verdict | Comments                   |
|----|-------|--|---|---------|----------------------------|
| 1  |       | Dc ? RRC_DataInd [ tcv_CN_Domain = cs_domain ]       | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_SetupMO_Any )   |         | 0.                         |
| 2  |       | RETURN   |   |         |                            |
| 3  |       | Dc ? RRC_DataInd [ tcv_CN_Domain = ps_domain ]       | car_UplinkDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_ActPDP_ContextReqMO _Any)                                   |         | 0.                         |
| 4  |       | RETURN   |   |         |                            |
| 5  |       | ?TIMEOUT t_Guard                                     |   |         | 1.                         |
| 6  |       | Ut ! MMI_CmdReq                                      | ca_MMI_CmdReq ( "The<br>guard timer has run out.<br>Please take appropriate<br>measures")                             |         | 4.                         |
| 7  |       | Ut ? MMI_CmdCnf                                      | ca_MMI_CmdCnf   |         |                            |
| 8  |       | [ tcv_TestBody = FALSE ]                             |   |         |                            |
| 9  | DFI1  | CANCEL   |   | (I)     |                            |
| 10 |       | [ tcv_TestBody = TRUE ]                              |   |         |                            |
| 11 | DFF1  | CANCEL   |   | (F)     |                            |
| 12 |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = TRUE ] | car_InitDirectTransfer ( tsc_CellDedicated , tsc_RB3, cr_ServiceRequest ( c_ServiceType_v(?), c_MobileIdAny_lv, ? ) ) |         | SERVIC<br>E<br>REQUE<br>ST |
| 13 |       | RETURN   |   |         |                            |
| 14 | DFI2  | Dc?OTHERWISE [ tcv_TestBody = FALSE ]                |   | (I)     | 2.                         |
| 15 |       | CANCEL   |   |         | 3.                         |
| 16 | DFF2  | Dc?OTHERWISE [ tcv_TestBody = TRUE ]                 |   | (F)     | 5.                         |
| 17 |       | CANCEL   |   |         | 3.                         |
| 18 |       | CRLC?CRLC_Integrity_Failure_IND                      | car_CRLC_IntegrityFail  |         |                            |
| 19 | DFF3  | [ tcv_CellIndInfo.integrityStarted ]                 |   | (F)     |                            |
| 20 |       | RETURN   |   |         |                            |
| 21 |       | [ NOT tcv_CellIndInfo.integrityStarted ]             |   |         |                            |
| 22 |       | RETURN   |   |         |                            |

**Detailed Comments**: 0. UE may send the SETUP or the Activate PDP context request message, then it shall be ignored

- 1. The guard timer times out, inconclusive.
- 2. If unexpectied data is received in the preambles or postambles, a preliminary inconclusive verdict is assigned, and the test case is terminated.
- 3. Cancel of all running timers.
- 4. Depending upon the context appropriate measures may differ: the guard timer duration may be increased, operator action during a test may be speeded up, ...
- 5. If unexpected data is received in the test body, a preliminary failure verdict is assigned, and the test case is terminated.

Default Name : RRC\_Def1
Group : RRC\_Defaults/

**Objective**: To match unexpected events and fail the test case.

Comments : Description :

| TM?RxStatus [ tcv_RLC_IgnoreStatus = TRUE ]  |     | ription | •  | T T  |         | T_                           |
|--|-----|---------|--|--|---------|------------------------------|
| RETURN   | Nr  | Label   | Behaviour Description  | Constraints Ref  | Verdict | Comments                     |
| Dc ? RRC_DataInd { tov_GMM_AttachExpect = TRUE }   Car_PS_InitDirectTransfer (tsc_CellDedicated, tsc_RB3, tov_TmpAtachReqPDU := RRC_DataInd.msg, tov_TmpBt:= tov_TmpAttachReqPDU.attachType.type, tov_CellIndInfo.start_PS := RRC_DataInd.start, tov_GMM_AttachRec := TRUE )   Car_AttachRec (   | 1   | l       | TM?RxStatus [ tcv_RLC_IgnoreStatus = TRUE ]  |  |         |                              |
| TRUE  (   tov_TmpAtachReqPDU := RRC_DataInd_msg, tov_TmpB3:= tov_TmpAtachReqPDU.attachType.type, tov_Cellindinfo.start_PS:= RRC_DataInd_start, tov_GMM_AttachRec := TRUE )   | 2   | ı       | RETURN   |  |         |                              |
| Dc ? RRC_DataInd [ tcv_GMM_RAU_Expect = TRUE ]   | 3   |         | TRUE] ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.type, tcv_CellIndInfo.start_PS := RRC_DataInd.start , tcv_GMM_AttachRec := TRUE ) | (tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq (<br>c_AttachTypeAny,<br>c_MobileIdAny_lv,<br>c_RAI_Any_v, |         | Extract Attach type requeste |
| TRUE   (   | 1   | ı       |  |  |         |                              |
| 7         Dc ? RRC_DataInd [ tcv_GMM_DetachExpect = TRUE ] ( tcv_GMM_DetachExpect := FALSE )         car_PS_UplinkDirectTransfe r ( tsc_CellDedicated , tsc_RB3, or_DetachRequest_MO )           8         RETURN           9         AM?RLC_AM_DATA_IND         car_RRC_Status(?, tsc_RB2, or_RRC_RrcStatus)           10         RETURN         car_MeasRepAM(?, tsc_RB2, or_RRC_MeasRep)           11         AM?RLC_AM_DATA_IND         car_MeasRepUM(?, tsc_RB2, or_RRC_MeasRep)           12         RETURN         car_MeasRepUM(?, tsc_RB1, or_RRC_MeasRep)           14         RETURN         car_AM_DataCnf(?, tsc_RB2)           15         AM?RLC_AM_DATA_CNF         car_AM_DataCnf(?, tsc_RB2)           16         RETURN         ca_Synclind ( tsc_UL_DPCH1 )           17         CPH??CPHY_Sync_IND               | 5   |         | TRUE ]( tcv_TmpRAU_ReqPDU := RRC_DataInd.msg, tcv_CellIndInfo.start_PS := RRC_DataInd.start ,  | tsc_CellDedicated , tsc_RB3, cbr_RA_UpdReqAny ( c_GMM_UpdateType_v(?,?) , c_RAI_Any_v,                     |         | REQUE                        |
| 7         Dc ? RRC_DataInd [ tcv_GMM_DetachExpect = TRUE ] ( tcv_GMM_DetachExpect := FALSE )         car_PS_UplinkDirectTransfe r ( tsc_CellDedicated , tsc_RB3, cr_DetachRequest_MO )           8         RETURN           9         AM?RLC_AM_DATA_IND         car_RRC_Status(?, tsc_RB2, cr_RRC_RrcStatus)           10         RETURN         car_MeasRepAM(?, tsc_RB2, cr_RRC_MeasRep)           11         AM?RLC_AM_DATA_IND         car_MeasRepUM(?, tsc_RB2, cr_RRC_MeasRep)           12         RETURN         car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)           14         RETURN         car_AM_DataCnf(?, tsc_RB2)           15         AM?RLC_AM_DATA_CNF         car_AM_DataCnf(?, tsc_RB2)           16         RETURN         ca_Synclind ( tsc_UL_DPCH1 )           17         CPH?YCPHY_Sync_IND               | 6   | 1       | RETURN   |  |         |                              |
| 8       RETURN         9       AM?RLC_AM_DATA_IND       car_RRC_Status(?, tsc_RB2, cr_RRC_RrcStatus)         10       RETURN       car_MeasRepAM(?, tsc_RB2, cr_RRC_MeasRep)         12       RETURN       car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)         13       UM?RLC_UM_DATA_IND       car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)         14       RETURN       car_AM_DataCnf(?, tsc_RB2)         15       AM?RLC_AM_DATA_CNF       car_AM_DataCnf(?, tsc_RB2)         16       RETURN       ca_Syncind (tsc_UL_DPCH1)         17       CPHY?CPHY_Sync_IND ca_Sync_IND ca_Sync_IND (CANCEL t_T312       tsc_UL_DPCH1)         18       RETURN       ca_OutOfSyncInd (tsc_UL_DPCH1)         19       CPHY?CPHY_Out_of_Sync_IND ca_Out_Of_Sync_IND (CANCEL t_T312       ca_OutOfSyncInd (tsc_UL_DPCH1)         20       RETURN | 1   |         |  | r (tsc_CellDedicated, tsc_RB3,   |         | REQUE                        |
| 10         RETURN           11         AM?RLC_AM_DATA_IND         car_MeasRepAM(?, tsc_RB2, cr_RRC_MeasRep)           12         RETURN         car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)           13         UM?RLC_UM_DATA_IND         car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)           14         RETURN         car_AM_DataCnf(?, tsc_RB2)           16         RETURN         ca_Synclind ( tsc_RB2)           17         CPHY?CPHY_Sync_IND  | 8   | 1       | RETURN   | <u> </u>   |         |                              |
| 11       AM?RLC_AM_DATA_IND       car_MeasRepAM(?, tsc_RB2, cr_RRC_MeasRep)         12       RETURN         13       UM?RLC_UM_DATA_IND       car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)         14       RETURN       car_AM_DataCnf(?, tsc_RB2)         15       AM?RLC_AM_DATA_CNF       car_AM_DataCnf(?, tsc_RB2)         16       RETURN       ca_Synclind ( tsc_UL_DPCH1 )         17       CPHY?CPHY_Sync_IND   | 9   |         | AM?RLC_AM_DATA_IND   | tsc_RB2,   |         |                              |
| 12       RETURN         13       UM?RLC_UM_DATA_IND       car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)         14       RETURN       car_AM_DataCnf(?, tsc_RB2)         15       AM?RLC_AM_DATA_CNF       car_AM_DataCnf(?, tsc_RB2)         16       RETURN       ca_SyncInd ( tsc_UL_DPCH1 )         17       CPHY?CPHY_Sync_IND CANCEL t_T312       ca_SyncInd ( tsc_UL_DPCH1 )         18       RETURN       ca_OutOfSyncInd ( tsc_UL_DPCH1 )         20       RETURN   | 10  | ı       | RETURN   |  |         |                              |
| 13         UM?RLC_UM_DATA_IND         car_MeasRepUM(?, tsc_RB1, cr_RRC_MeasRep)           14         RETURN         car_AM_DataCnf(?, tsc_RB2)           15         AM?RLC_AM_DATA_CNF         car_AM_DataCnf(?, tsc_RB2)           16         RETURN         ca_SyncInd ( tsc_UL_DPCH1 )           17         CPHY?CPHY_Sync_IND (CANCEL t_T312 tsc_UL_DPCH1 )         ca_OutOfSyncInd ( tsc_UL_DPCH1 )           18         RETURN         ca_OutOfSyncInd ( tsc_UL_DPCH1 )           20         RETURN         recount of SyncInd ( tsc_UL_DPCH1 )  | 11  |         | AM?RLC_AM_DATA_IND   | tsc_RB2,   |         |                              |
| 14       RETURN         15       AM?RLC_AM_DATA_CNF       car_AM_DataCnf(?, tsc_RB2)         16       RETURN       ca_SyncInd (tsc_UL_DPCH1)         17       CPHY?CPHY_Sync_IND (CANCEL t_T312)       ca_SuncInd (tsc_UL_DPCH1)         18       RETURN       ca_OutOfSyncInd (tsc_UL_DPCH1)         19       CPHY?CPHY_Out_of_Sync_IND (CANCEL t_T312)       ca_OutOfSyncInd (tsc_UL_DPCH1)         20       RETURN  | 12  | 1       | RETURN   |  |         |                              |
| 14       RETURN         15       AM?RLC_AM_DATA_CNF       car_AM_DataCnf(?, tsc_RB2)         16       RETURN         17       CPHY?CPHY_Sync_IND CANCEL t_T312       ca_SyncInd (tsc_UL_DPCH1)         18       RETURN         19       CPHY?CPHY_Out_of_Sync_IND CANCEL t_T312       ca_OutOfSyncInd (tsc_UL_DPCH1)         20       RETURN   | 13  | l       | UM?RLC_UM_DATA_IND   | tsc_RB1,   |         |                              |
| 16       RETURN         17       CPHY?CPHY_Sync_IND CANCEL t_T312       ca_SyncInd (tsc_UL_DPCH1)         18       RETURN         19       CPHY?CPHY_Out_of_Sync_IND CANCEL t_T312       ca_OutOfSyncInd (tsc_UL_DPCH1)         20       RETURN  | 14  | ı       | RETURN   |  |         |                              |
| 17         CPHY?CPHY_Sync_IND CANCEL t_T312         ca_SyncInd (tsc_UL_DPCH1)           18         RETURN           19         CPHY?CPHY_Out_of_Sync_IND CANCEL t_T312         ca_OutOfSyncInd (tsc_UL_DPCH1)           20         RETURN  | 1   | l       | AM?RLC_AM_DATA_CNF   | 1 – – , ,  |         |                              |
| CANCEL t_T312   tsc_UL_DPCH1 )   RETURN     CPHY?CPHY_Out_of_Sync_IND   ca_OutOfSyncInd ( tsc_UL_DPCH1 )   20  | 16  | ı       | RETURN   |  |         |                              |
| 19 CPHY?CPHY_Out_of_Sync_IND ca_OutOfSyncInd (tsc_UL_DPCH1) 20 RETURN ca_OutOfSyncInd (tsc_UL_DPCH1)   | 17  | I       | _ , _  |  |         |                              |
| CANCEL t_T312 tsc_UL_DPCH1 ) 20 RETURN   | 18  | 1       | RETURN   |  |         |                              |
|  |     |         | CANCEL t_T312  |  |         |                              |
| 21   CRLC?CRLC_Integrity_Failure_IND   car_CRLC_IntegrityFail  | - 1 | I       |  |  |         |                              |
|  | 21  |         | CRLC?CRLC_Integrity_Failure_IND  | car_CRLC_IntegrityFail   |         |                              |

|          |       | Default Dynamic I  | Behaviour   |                  |                            |
|----------|-------|--|---|------------------|----------------------------|
| Nr       | Label | Behaviour Description                                    | Constraints Ref   | Verdict          | Comments                   |
| 22       | DFF0  | [ tcv_CellIndInfo.integrityStarted ]                     |   | (F)              |                            |
| 23       |       | RETURN   |   |                  |                            |
| 24       |       | [ NOT tcv_CellIndInfo.integrityStarted ]                 |   |                  |                            |
| 25       |       | RETURN   |   |                  |                            |
| 26<br>27 |       | Dc ? RRC_DataInd[tcv_MM_TestExecution]  Dc ! RRC_DataReq | car_PS_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v,?)) ca_PS_DataReq ( |                  |                            |
|          |       |  | tsc_CellDedicated,<br>tsc_RB3,<br>cs_AttachRej(<br>'07'O))  |                  |                            |
| 28       |       | RETURN   |   |                  |                            |
| 29       |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = TRUE ]     | car_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_ServiceRequest ( c_ServiceType_v(?),   c_MobileIdAny_lv, ?) )                     |                  | SERVIC<br>E<br>REQUE<br>ST |
| 30       |       | RETURN   |   |                  |                            |
| 31       |       | ?TIMEOUT t_Guard   |   |                  |                            |
| 32       |       | Ut! MMI_CmdReq   | ca_MMI_CmdReq ( "The<br>guard timer has run out.<br>Please take appropriate<br>measures")   |                  | 4.                         |
| 33       |       | Ut ? MMI_CmdCnf  | ca_MMI_CmdCnf   |                  |                            |
| 34       |       | [ tcv_TestBody = FALSE ]                                 |   |                  |                            |
| 35       | DFI1  | CANCEL   |   | (I)              |                            |
| 36       |       | [ tcv_TestBody = TRUE ]                                  |   |                  |                            |
| 37       | DFF1  | CANCEL   |   | (F)              |                            |
| 38       |       | ?TIMEOUT t_TimeoutInDefault                              |   |                  |                            |
| 39       |       | (tcv_TimeoutInDefault := TRUE)                           |   |                  |                            |
| 40       |       | RETURN   |   |                  |                            |
| 41       |       | ?TIMEOUT   |   |                  |                            |
| 42       |       | [tcv_TestBody = FALSE]                                   |   |                  |                            |
| 43       | DFI8  | CANCEL   |   | (I)              |                            |
| 44       |       | [tcv_TestBody = TRUE]                                    |   | (5)              |                            |
| 45       | DFF8  | CANCEL TarkBarks FALCE I                                 |   | (F)              |                            |
| 46       | חבות  | AM?OTHERWISE [ tcv_TestBody = FALSE ]                    |   | <br>             |                            |
| 47       | DFI2  | CANCEL   |   | (I)              |                            |
| 48<br>49 | DFI3  | UM?OTHERWISE [ tcv_TestBody = FALSE ]  CANCEL            |   | [ <sub>(I)</sub> |                            |
|          | וייין | TM?OTHERWISE [ tcv_TestBody = FALSE ]                    |   | (1)              |                            |
| 50<br>51 | DFI4  | CANCEL CANCEL  |   | [ <sub>(1)</sub> |                            |
| IJΙ      | DF14  | OANGEL   |   | (I)              |                            |

|      |          | Default Dynamic                         | Behaviour  |         |          |
|------|----------|---|--|---------|----------|
| Nr   | Label    | Behaviour Description                   | Constraints Ref  | Verdict | Comments |
| 52   |          | Dc?RRC_DataInd [ tcv_TestBody = FALSE ] | car_PS_UplinkDirectTransfe r (tsc_CellDedicated, tsc_RB3, cbr_Deact_PDP_ContextRe q_MO(?)) | (1)     | 2.       |
| 53   | DFI5     | CANCEL                                  |  |         | 3.       |
| 54   |          | AM?OTHERWISE [ tcv_TestBody = TRUE]     |  |         |          |
| 55   | DFF2     | CANCEL                                  |  | (F)     |          |
| 56   |          | UM?OTHERWISE [ tcv_TestBody = TRUE]     |  |         |          |
| 57   | DFF3     | CANCEL                                  |  | (F)     |          |
| 58   |          | TM?OTHERWISE [ tcv_TestBody = TRUE]     |  |         |          |
| 59   | DFF4     | CANCEL                                  |  | (F)     |          |
| 60   |          | Dc?RRC_DataInd [ tcv_TestBody = TRUE ]  | car_PS_UplinkDirectTransfe r (tsc_CellDedicated, tsc_RB3, cbr_Deact_PDP_ContextRe q_MO(?)) | (F)     | 5.       |
| 61   | DFF5     | CANCEL                                  |  |         | 3.       |
| 62   |          | CRLC?OTHERWISE                          |  |         |          |
| 63   | DFI6     | CANCEL                                  |  | (I)     |          |
| 64   |          | CMAC?OTHERWISE                          |  |         |          |
| 65   | DFI7     | CANCEL                                  |  | (1)     |          |
| 66   |          | CPHY?OTHERWISE                          |  |         |          |
| 67   | DFI9     | CANCEL                                  |  | (I)     |          |
| Deta | iled Com | ments :                                 |  |         |          |

**Default Name**: RRC\_DefConnEst : RRC\_Defaults/ Group

: To match unexpected events during an RRC connection establishment i.e to match the repetition of RRC CONNECTION REQUEST. Objective

Comments Description :

| Nr       | Label | Behaviour Description                         | Constraints Ref                                   | Verdict | Comments    |
|----------|-------|---|---|---------|-------------|
| 1        |       | TM?RLC_TR_DATA_IND                            | car_RRC_ConnReq(?,                                |         |             |
|          |       |   | tsc_RB0,  |         |             |
|          |       | DETUDN  | cr_RRC_RrcConnReqAny)                             |         |             |
| 2        |       | RETURN  | oor DDC Status/2                                  |         |             |
| 3        |       | AM?RLC_AM_DATA_IND                            | car_RRC_Status(?, tsc_RB2,                        |         |             |
|          |       |   | cr_RRC_RrcStatus)                                 |         |             |
| 4        |       | RETURN  |   |         |             |
| 5        |       | CPHY?CPHY_Sync_IND                            | ca_SyncInd (                                      |         |             |
|          |       | CANCEL t_T312  RETURN                         | tsc_UL_DPCH1)                                     |         |             |
| 6<br>7   |       |   | on OutOfCynalad /                                 |         |             |
| ′        |       | CPHY?CPHY_Out_of_Sync_IND<br>CANCEL t_T312    | ca_OutOfSyncInd (<br>tsc_UL_DPCH1 )               |         |             |
| 8        |       | RETURN  | ,   |         |             |
| 9        |       | AM?RLC_AM_DATA_IND                            | car_MeasRepAM(?,                                  |         |             |
|          |       |   | tsc_RB2,  |         |             |
| 40       |       | DETUDN  | cr_RRC_MeasRep)                                   |         |             |
| 10<br>11 |       | RETURN  | oor MoooDopUM/2                                   |         |             |
| '        |       | UM?RLC_UM_DATA_IND                            | car_MeasRepUM(?, tsc_RB1,                         |         |             |
|          |       |   | cr_RRC_MeasRep)                                   |         |             |
| 12       |       | RETURN  |   |         |             |
| 13       |       | AM?RLC_AM_DATA_CNF                            | car_AM_DataCnf(?, tsc_RB2)                        |         |             |
| 14       |       | RETURN  |   |         |             |
| 15       |       | CRLC?CRLC_Integrity_Failure_IND               | car_CRLC_IntegrityFail                            |         |             |
| 16       | DFF0  | [ tcv_CellIndInfo.integrityStarted ]          |   | (F)     |             |
| 17       |       | RETURN  |   |         |             |
| 18       |       | [ NOT tcv_CellIndInfo.integrityStarted ]      |   |         |             |
| 19       |       | RETURN  |   |         |             |
| 20       |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = | car_InitDirectTransfer (                          |         | SERVIC<br>E |
|          |       | TRUE]   | tsc_CellDedicated ,<br>tsc_RB3, cr_ServiceRequest |         | REQUE       |
|          |       |   | ( c_ServiceType_v(?),                             |         | ST          |
|          |       |   | c_MobileIdAny_lv, ?)                              |         |             |
| 21       |       | <br>  RETURN                                  | <b>'</b>  |         |             |
| 22       |       | ?TIMEOUT t_Guard                              |   |         |             |
| 23       |       | Ut!MMI_CmdReq                                 | ca_MMI_CmdReq ( "The                              |         | 4.          |
|          |       | ·   | guard timer has run out.                          |         |             |
|          |       |   | Please take appropriate measures")                |         |             |
| 24       |       | Ut ? MMI_CmdCnf                               | ca_MMI_CmdCnf                                     |         |             |
| 25       |       | [tcv_TestBody = FALSE]                        |   |         |             |
| 26       | DFI1  | CANCEL  |   | (I)     |             |
| 27       |       | [ tcv_TestBody = TRUE ]                       |   | `′      |             |

|      | Default Dynamic Behaviour |                                       |                 |         |          |  |  |
|------|---------------------------|---------------------------------------|-----------------|---------|----------|--|--|
| Nr   | Label                     | Behaviour Description                 | Constraints Ref | Verdict | Comments |  |  |
| 28   | DFF1                      | CANCEL                                |                 | (F)     |          |  |  |
| 29   |                           | ?TIMEOUT t_TimeoutInDefault           |                 |         |          |  |  |
| 30   |                           | (tcv_TimeoutInDefault := TRUE)        |                 |         |          |  |  |
| 31   |                           | RETURN                                |                 |         |          |  |  |
| 32   |                           | ?TIMEOUT                              |                 |         |          |  |  |
| 33   |                           | [ tcv_TestBody = FALSE ]              |                 |         |          |  |  |
| 34   | DFI8                      | CANCEL                                |                 | (I)     |          |  |  |
| 35   |                           | [ tcv_TestBody = TRUE ]               |                 |         |          |  |  |
| 36   | DFF8                      | CANCEL                                |                 | (F)     |          |  |  |
| 37   |                           | AM?OTHERWISE [ tcv_TestBody = FALSE ] |                 |         |          |  |  |
| 38   | DFI2                      | CANCEL                                |                 | (I)     |          |  |  |
| 39   |                           | UM?OTHERWISE [ tcv_TestBody = FALSE ] |                 |         |          |  |  |
| 40   | DFI3                      | CANCEL                                |                 | (I)     |          |  |  |
| 41   |                           | TM?OTHERWISE [ tcv_TestBody = FALSE ] |                 |         |          |  |  |
| 42   | DFI4                      | CANCEL                                |                 | (I)     |          |  |  |
| 43   |                           | AM?OTHERWISE [ tcv_TestBody = TRUE]   |                 |         |          |  |  |
| 44   | DFF2                      | CANCEL                                |                 | (F)     |          |  |  |
| 45   |                           | UM?OTHERWISE [ tcv_TestBody = TRUE]   |                 |         |          |  |  |
| 46   | DFF3                      | CANCEL                                |                 | (F)     |          |  |  |
| 47   |                           | TM?OTHERWISE [ tcv_TestBody = TRUE]   |                 |         |          |  |  |
| 48   | DFF4                      | CANCEL                                |                 | (F)     |          |  |  |
| 49   |                           | CRLC?OTHERWISE                        |                 |         |          |  |  |
| 50   | DFI5                      | CANCEL                                |                 | (I)     |          |  |  |
| 51   |                           | CMAC?OTHERWISE                        |                 |         |          |  |  |
| 52   | DFI6                      | CANCEL                                |                 | (I)     |          |  |  |
| 53   |                           | CPHY?OTHERWISE                        |                 |         |          |  |  |
| 54   | DFI7                      | CANCEL                                |                 | (I)     |          |  |  |
| Deta | Detailed Comments :       |                                       |                 |         |          |  |  |

**Default Name :** UT\_OtherwiseFail Group : UT\_Defaults/

Objective : To match unexpected events and fail the test case at the UtT PCO.

Comments Description

|    | ı     |  |                        |         |          |
|----|-------|--|------------------------|---------|----------|
| Nr | Label | Behaviour Description                    | Constraints Ref        | Verdict | Comments |
| 1  |       | Ut?OTHERWISE                             |                        |         | 1.       |
| 2  | DFI1  | CANCEL                                   |                        | 1       | 2.       |
| 3  |       | CRLC?CRLC_Integrity_Failure_IND          | car_CRLC_IntegrityFail |         |          |
| 4  | DFF2  | [ tcv_CellIndInfo.integrityStarted ]     |                        | (F)     |          |
| 5  |       | RETURN                                   |                        |         |          |
| 6  |       | [ NOT tcv_CellIndInfo.integrityStarted ] |                        |         |          |
| 7  |       | RETURN                                   |                        |         |          |
| 8  |       | ?TIMEOUT                                 |                        |         |          |
| 9  |       | [ tcv_TestBody = FALSE ]                 |                        |         |          |
| 10 | DFI8  | CANCEL                                   |                        | (I)     |          |
| 11 |       | [ tcv_TestBody = TRUE ]                  |                        |         |          |
| 12 | DFF8  | CANCEL                                   |                        | (F)     |          |
|    |       |  |                        |         |          |

Detailed Comments : 1. Unexpected UT MMI events, fail. 2. Cancel of all running timers.

Default Name : SS\_Def\_Special
Group : SS\_Defaults/

**Objective**: To match unexpected events during SS configuration/reconfiguration steps.

This default does not send any message.

Comments : Description :

| Nr | Label | Behaviour Description  | Constraints Ref  | Verdict | Comments  |
|----|-------|--|--|---------|---|
| 1  |       | ?TIMEOUT t_Guard   |  |         |   |
| 2  |       | Ut! MMI_CmdReq   | ca_MMI_CmdReq ( "The<br>guard timer has run out.<br>Please take appropriate<br>measures")  |         | 4.  |
| 3  |       | Ut ? MMI_CmdCnf  | ca_MMI_CmdCnf  |         |   |
| 4  |       | [ tcv_TestBody = FALSE ]   |  |         |   |
| 5  | DFI5  | CANCEL   |  | (I)     |   |
| 6  |       | [ tcv_TestBody = TRUE ]  |  |         |   |
| 7  | DFF7  | CANCEL   |  | (F)     |   |
| 8  |       | ?TIMEOUT t_TimeoutInDefault  |  |         |   |
| 9  |       | (tcv_TimeoutInDefault := TRUE)   |  |         |   |
| 10 |       | RETURN   |  |         |   |
| 11 |       | ?TIMEOUT   |  |         |   |
| 12 |       | [ tcv_TestBody = FALSE ]   |  |         |   |
| 13 | DFI8  | CANCEL   |  | (I)     |   |
| 14 |       | [ tcv_TestBody = TRUE ]  |  |         |   |
| 15 | DFF8  | CANCEL   |  | (F)     |   |
| 16 |       | CPHY?CPHY_Sync_IND   | ca_SyncInd (?)   |         |   |
| 17 |       | RETURN   |  |         |   |
| 18 |       | CPHY?CPHY_Out_of_Sync_IND  | ca_OutOfSyncInd (?)  |         |   |
| 19 |       | RETURN   |  |         |   |
| 20 |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = TRUE ]   | car_InitDirectTransfer ( tsc_CellDedicated , tsc_RB3, cr_ServiceRequest ( c_ServiceType_v(?),   c_MobileIdAny_lv, ? ) )                        |         | SERVIC<br>E<br>REQUE<br>ST  |
| 21 |       | RETURN   |  |         |   |
| 22 |       | Dc ? RRC_DataInd [ tcv_GMM_AttachExpect = TRUE] ( tcv_TmpAttachReqPDU := RRC_DataInd.msg, tcv_TmpB3:= tcv_TmpAttachReqPDU.attachType.type, tcv_CellIndInfo.start_PS := RRC_DataInd.start , tcv_GMM_AttachRec := TRUE ) | car_PS_InitDirectTransfer<br>(tsc_CellDedicated,<br>tsc_RB3,<br>cr_AttachReq (<br>c_AttachTypeAny,<br>c_MobileIdAny_Iv,<br>c_RAI_Any_v,<br>?)) |         | ATTACH<br>REQUE<br>ST –<br>Extract<br>Attach<br>type<br>requeste<br>d |
| 23 |       | RETURN   |  |         |   |
| 24 |       | CRLC?CRLC_Integrity_Failure_IND  | car_CRLC_IntegrityFail   |         |   |
| 25 | DFF5  | [ tcv_CellIndInfo.integrityStarted ]   |  | (F)     |   |
| 26 |       | RETURN   |  |         |   |
| 27 |       | [ NOT tcv_CellIndInfo.integrityStarted ]   |  |         |   |
| 28 |       | RETURN   |  |         |   |
| 29 |       | CPHY?OTHERWISE   |  |         |   |
| 30 | DFI2  | CANCEL   |  | (I)     |   |

### Continued from previous page

|      | Default Dynamic Behaviour |                       |                 |         |          |  |  |
|------|---------------------------|-----------------------|-----------------|---------|----------|--|--|
| Nr   | Label                     | Behaviour Description | Constraints Ref | Verdict | Comments |  |  |
| 31   |                           | CMAC?OTHERWISE        |                 |         |          |  |  |
| 32   | DFI3                      | CANCEL                |                 | (I)     |          |  |  |
| 33   |                           | CRLC?OTHERWISE        |                 |         |          |  |  |
| 34   | DFI4                      | CANCEL                |                 | (I)     |          |  |  |
| Deta | Detailed Comments :       |                       |                 |         |          |  |  |

Default Name : SS\_Def
Group : SS\_Defaults/

**Objective**: To match unexpected events during SS configuration/reconfiguration steps.

Comments : Description :

| Nr | Label | Behaviour Description                                | Constraints Ref   | Verdict | Comments                   |
|----|-------|--|---|---------|----------------------------|
| 1  | Label | ?TIMEOUT t_Guard                                     | Ouistianits I/G   | Verdict | Comments                   |
| 2  |       | Ut! MMI_CmdReq                                       | ca_MMI_CmdReq ( "The guard timer has run out. Please take appropriate measures")  |         | 4.                         |
| 3  |       | Ut ? MMI_CmdCnf                                      | ca_MMI_CmdCnf   |         |                            |
| 4  |       | [ tcv_TestBody = FALSE ]                             |   |         |                            |
| 5  | DFI5  | CANCEL   |   | (I)     |                            |
| 6  |       | [ tcv_TestBody = TRUE ]                              |   |         |                            |
| 7  | DFF7  | CANCEL   |   | (F)     |                            |
| 8  |       | ?TIMEOUT t_TimeoutInDefault                          |   |         |                            |
| 9  |       | (tcv_TimeoutInDefault := TRUE)                       |   |         |                            |
| 10 |       | RETURN   |   |         |                            |
| 11 |       | ?TIMEOUT   |   |         |                            |
| 12 |       | [ tcv_TestBody = FALSE ]                             |   |         |                            |
| 13 | DFI8  | CANCEL   |   | (I)     |                            |
| 14 |       | [ tcv_TestBody = TRUE ]                              |   |         |                            |
| 15 | DFF8  | CANCEL   |   | (F)     |                            |
| 16 |       | CPHY?CPHY_Sync_IND                                   | ca_SyncInd (?)  |         |                            |
| 17 |       | RETURN   |   |         |                            |
| 18 |       | CPHY?CPHY_Out_of_Sync_IND                            | ca_OutOfSyncInd (?)   |         |                            |
| 19 |       | RETURN   |   |         |                            |
| 20 |       | Dc ? RRC_DataInd[tcv_MM_TestExecution]               | car_PS_InitDirectTransfer ( tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v,?)) |         |                            |
| 21 |       | Dc ! RRC_DataReq                                     | ca_PS_DataReq ( tsc_CellDedicated, tsc_RB3, cs_AttachRej( '07'O))   |         |                            |
| 22 |       | RETURN   |   |         |                            |
| 23 |       | Dc ? RRC_DataInd [ tcv_ReceivePS_ServiceReq = TRUE ] | car_InitDirectTransfer ( tsc_CellDedicated , tsc_RB3, cr_ServiceRequest ( c_ServiceType_v(?), c_MobileIdAny_lv, ? ) )     |         | SERVIC<br>E<br>REQUE<br>ST |
| 24 |       | RETURN   |   |         |                            |

|      |                     | Default Dynamic  | Behaviour   |         |   |  |  |
|------|---------------------|--|---|---------|---|--|--|
| Nr   | Label               | Behaviour Description  | Constraints Ref   | Verdict | Comments  |  |  |
| 25   |                     | Dc ? RRC_DataInd [ tcv_GMM_AttachExpect = TRUE] (     tcv_TmpAttachReqPDU := RRC_DataInd.msg,     tcv_TmpB3:=     tcv_TmpAttachReqPDU.attachType.type,     tcv_CellIndInfo.start_PS := RRC_DataInd.start ,     tcv_GMM_AttachRec := TRUE ) | car_PS_InitDirectTransfer (tsc_CellDedicated, tsc_RB3, cr_AttachReq ( c_AttachTypeAny, c_MobileIdAny_Iv, c_RAI_Any_v, ?)) |         | ATTACH<br>REQUE<br>ST –<br>Extract<br>Attach<br>type<br>requeste<br>d |  |  |
| 26   |                     | RETURN   |   |         |   |  |  |
| 27   |                     | CRLC?CRLC_Integrity_Failure_IND  | car_CRLC_IntegrityFail  |         |   |  |  |
| 28   | DFF5                | [ tcv_CellIndInfo.integrityStarted ]   |   | (F)     |   |  |  |
| 29   |                     | RETURN   |   |         |   |  |  |
| 30   |                     | [ NOT tcv_CellIndInfo.integrityStarted ]   |   |         |   |  |  |
| 31   |                     | RETURN   |   |         |   |  |  |
| 32   |                     | CPHY?OTHERWISE   |   |         |   |  |  |
| 33   | DFI2                | CANCEL   |   | (I)     |   |  |  |
| 34   |                     | CMAC?OTHERWISE   |   |         |   |  |  |
| 35   | DFI3                | CANCEL   |   | (I)     |   |  |  |
| 36   |                     | CRLC?OTHERWISE   |   |         |   |  |  |
| 37   | DFI4                | CANCEL   |   | (I)     |   |  |  |
| Deta | Detailed Comments : |  |   |         |   |  |  |

Default Name: RLC\_Default : RLC\_Defaults/ Group

Objective Comments Description

| <b>N</b> r | <b>Label</b> DFI1 | Behaviour Description                    | Constraints Ref   | Verdict | Comments |
|------------|-------------------|--|---|---------|----------|
|            | DFI1              | l <del></del>                            |   |         |          |
|            |                   | TM ? OTHERWISE [ tcv_TestBody = FALSE ]  |   | (I)     | 1        |
| 2          |                   | RETURN                                   |   |         |          |
| 3          | DFF1              | TM ? OTHERWISE [ tcv_TestBody = TRUE ]   |   | (F)     | 2        |
| 4          | DFI2              | AM ? OTHERWISE [ tcv_TestBody = FALSE ]  |   | (I)     | 3        |
| 5          |                   | RETURN                                   |   |         |          |
| 6          | DFF2              | AM ? OTHERWISE [ tcv_TestBody = TRUE ]   |   | (F)     | 4        |
| 7          | DFI3              | UM ? OTHERWISE [ tcv_TestBody = FALSE ]  |   | (I)     | 3        |
| 8          |                   | RETURN                                   |   |         |          |
| 9          | DFF3              | UM ? OTHERWISE [ tcv_TestBody = TRUE ]   |   | (F)     | 4        |
| 10         |                   | CRLC?CRLC_Integrity_Failure_IND          | car_CRLC_IntegrityFail  |         | 10       |
| 11         | DFF4              | [ tcv_CellIndInfo.integrityStarted ]     |   | (F)     |          |
| 12         |                   | RETURN                                   |   |         |          |
| 13         |                   | [ NOT tcv_CellIndInfo.integrityStarted ] |   |         |          |
| 14         |                   | RETURN                                   |   |         |          |
| 15         | DFI4              | ? TIMEOUT t_Guard                        |   |         | 5        |
| 16         |                   | Ut!MMI_CmdReq                            | ca_MMI_CmdReq ( "The<br>guard timer has run out.<br>Please take appropriate<br>measures") |         | 4.       |
| 17         |                   | Ut ? MMI_CmdCnf                          | ca_MMI_CmdCnf   |         |          |
| 18         |                   | [ tcv_TestBody = FALSE ]                 |   |         |          |
| 19         | DFI5              | CANCEL                                   |   | (I)     |          |
| 20         |                   | [ tcv_TestBody = TRUE ]                  |   |         |          |
| 21         | DFF7              | CANCEL                                   |   | (F)     |          |
| 22         | DFI6              | ? TIMEOUT t_Poll                         |   | (I)     | 6        |
| 23         | DFI7              | ? TIMEOUT t_Status                       |   | (I)     | 7        |
| 24         | DFI8              | ? TIMEOUT t_Reset                        |   | (I)     | 8        |
| 25         |                   | ?TIMEOUT                                 |   |         |          |
| 26         |                   | [ tcv_TestBody = FALSE ]                 |   |         |          |
| 27         | DFI9              | CANCEL                                   |   | (I)     |          |
| 28         |                   | [ tcv_TestBody = TRUE ]                  |   |         |          |
| 29         | DFF8              | CANCEL                                   |   | (F)     |          |

- Detailed Comments: 1. If unexpected data is received on the TM PCO outside of the test body, the preambles / postambles have failed, and an inconclusive verdict is assigned.
  - 2. If unexpected data is received on the TM PCO within the test body, the test purpose has not been met, and a fail verdict is assigned.
  - 3. If unexpected data is received on the AM or UM PCO outside of the test body, the preambles / postambles have failed, and an inconclusive verdict is assigned.
  - 4. If unexpected data is received on the AM or UM PCO within the test body, the test purpose has not been met, and a fail verdict is assigned.
  - 5. If the guard timer expires at any time, the test case has timed out, and an

# Detailed Comments : ...

inconclusive verdict is assigned.

- 6. The poll timer is used to measure the time between poll events by using the READTIMER operation. It is not expected to expire, so if expiry of this timer occurs, an inconclusive verdict is assigned indicating a test case error.
- 7. The status timer is used to measure the time between STATUS PDUs by using the READTIMER operation. It is not expected to expire, so if expiry of this timer occurs, an inconclusive verdict is assigned indicating a test case error.
- 8. The reset timer is used to measure the time between RESET PDUs by using the READTIMER operation. It is not expected to expire, so if expiry of this timer occurs, an inconclusive verdict is assigned indicating a test case error.
- 9. If any other timer expires and is not explicitly handled in the test case, an inconclusive verdict is assigned.
- 10. If an Integrity failure indication occurrs, a fail verdict is assigned.