### 27.22.5 Data Download to UICC

#### 27.22.5.1 SMS-PP Data Download

##### 27.22.5.1.1 Definition and applicability

See clause 3.2.2.

##### 27.22.5.1.2 Conformance requirement

The ME shall support the Proactive UICC: SMS-PP Data Download facility as defined in the following technical specifications:

- TS 31.111 [15] clause 5, clause 7.1, clause 8.1, clause 8.7, clause 8.13 and clause 11.

- TS 31.115 [28] clause 4.

- TS 23.038 [7] clause 4..

##### 27.22.5.1.3 Test purpose

To verify that the ME transparently passes the "data download via SMS Point-to-point" messages to the UICC.

To verify that the ME returns the RP-ACK message back to the USS, if the UICC responds with '90 00', '91 XX', '62 XX' or '63 XX'.

To verify that the ME with an SMS-PP download feature implementation prior to Rel-11 returns the RP-ERROR message back to the system Simulator, if the UICC responds with '62 XX' or '63 XX' (while the ME with the Rel-11 or later implemention of this feature returns an RP-ACK in this case).

To verify that the ME returns the response data from the UICC back to the USS in the TP-User-Data element of the RP-ACK message, if the UICC returns response data'.

##### 27.22.5.1.4 Method of Test

27.22.5.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and connected to the USS.

The "data download via SMS-PP" service is available in the USIM Service Table.

27.22.5.1.4.2 Procedure

Expected Sequence 1.1 (Void)

Expected Sequence 1.2 (Void)

Expected Sequence 1.3 (Void)

Expected Sequence 1.4 (void)

Expected Sequence 1.5 (void)

Expected Sequence 1.6 (Void)

Expected Sequence 1.7 (Void)

Expected Sequence 1.8 (Void)

Expected Sequence 1.9 (SMS-PP Data Download over CS/PS, UTRAN/GERAN)

In case A.1/156 is supported perform the "CS related procedure 1" and continue with "Generic Test Procedure 1 (SMS-PP Data Download)" as defined in this clause 27.22.5.3.4.2 as "Expected Sequence 1.9" with the following parameters:

- Used Network Simulator (NWS): USS (UMTS System Simulator or System Simulator)

- CS domain is used to send and receive short messages

- ME supports UTRAN or GERAN

CS related procedure:

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USER → ME | The ME is switched on | ME will perform Profle Download and USIM initialisation |
| 2 | ME → NWS | ME performs CS/PS or CS registration. |  |
| 3 |  | CONTINUE WITH STEP 4 Generic Test Procedure 1 (SMS-PP Data Download) in clause 27.22.5.3.4.2 |  |

In case A.1/156 is not supported but A.1/158 is supported perform the "PS related procedure" and continue with "Generic Test Procedure 1 (SMS-PP Data Download)" as defined in this clause 27.22.5.3.4.2 as "Expected Sequence 1.9" with the following parameters:

- Used Network Simulator (NWS): USS (UMTS System Simulator or System Simulator)

- PS domain is used to send and receive short messages

- ME supports UTRAN or GERAN

PS related procedure:

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USER → ME | The ME is switched on | ME will perform Profle Download and USIM initialisation |
| 2 | ME → NWS | ME performs CS/PS or PS registration. |  |
| 3 |  | CONTINUE WITH STEP 4 Generic Test Procedure 1 (SMS-PP Data Download) in clause 27.22.5.3.4.2 |  |

##### 27.22.5.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.9.

#### 27.22.5.2 Cell Broadcast Data Download

##### 27.22.5.2.1 Definition and applicability

See clause 3.2.2.

##### 27.22.5.2.2 Conformance requirement

The ME shall support the Proactive UICC: Cell Broadcast Data Download facility as defined in:

- TS 31.111 [15] clause 5, clause 7.1.2, clause 8.5, clause 8.7 and clause 11.

- TS 31.115 [28] clause 5.

- TS 23.038 [7] clause 5.

##### 27.22.5.2.3 Test purpose

To verify that the ME transparently passes the "data download via Cell Broadcast" messages to the UICC, which contain a message identifier found in EFCBMID.

##### 27.22.5.2.4 Method of Test

27.22.5.2.4.1 Initial conditions

The ME is connected to the USIM Simulator and only connected to the USS if the USS is mentioned in the sequence table.The elementary files are coded as Toolkit default with the following exeception:

EF PL shall contain an entry indicating "English".

A USS setting up only a GERAN or PCS 1900 cell shall be used for Expected sequence 1.1, 1.7 and 1.3.

A USS setting up only a UTRAN cell shall be used on and expected sequence 1.4, 1.5 and 1.6.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

27.22.5.2.4.2 Procedure

Expected Sequence 1.1 (Cell Broadcast Data Download (GSM), ENVELOPE(CELL BROADCAST DOWNLOAD), ME does not display message)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USS → ME | CELL BROADCAST 1.1 | Message identifier '10 01' |
| 2 | ME → UICC | ENVELOPE (CELL BROADCAST DOWNLOAD) 1.1 |  |
| 3 | UICC → ME | SW1, SW2 '90 00' |  |

Cell Broadcast Message 1.1

Logically:

Message Content

Serial Number

Geographical scope: Cell wide, normal display mode

Message code: 1

Update number: 1

Message Identifier: "1001"

Data coding Scheme

Message Coding: English, language using the GSM 7 bit default alphabet

Page Parameter

Total number of pages: 1

Page number: 1

Content of message: "Cell Broadcast"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | C0 | 11 | 10 | 01 | 01 | 11 | C3 | 32 | 9B | 0D | 12 | CA |
|  | DF | 61 | F2 | 38 | 3C | A7 | 83 | 40 | 20 | 10 | 08 | 04 |
|  | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 |
|  | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 |
|  | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 |
|  | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 |
|  | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 |
|  | 10 | 08 | 04 | 02 |  |  |  |  |  |  |  |  |

ENVELOPE: CELL BROADCAST DOWNLOAD 1.1

Logically:

Cell Broadcast Download

Device identities

Source device: Network

Destination device: UICC

Cell Broadcast page

Serial Number

Geographical scope: Cell wide, normal display mode

Message code: 1

Update number: 1

Message Identifier: "1001"

Data coding Scheme

Message Coding: English, language using the GSM 7 bit default alphabet

Page Parameter

Number of pages: 1

Page number: 1

Content of message: "Cell Broadcast"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D2 | 5E | 82 | 02 | 83 | 81 | 8C | 58 | C0 | 11 | 10 | 01 |
|  | 01 | 11 | C3 | 32 | 9B | 0D | 12 | CA | DF | 61 | F2 | 38 |
|  | 3C | A7 | 83 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 |
|  | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 |
|  | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 |
|  | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 |
|  | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 |
|  | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 |

Expected Sequence 1.2 (void)

Expected Sequence 1.3 (Cell Broadcast (GSM), ME may display the message)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USS → ME | CELL BROADCAST 1.2 | Message identifier '03 E7' |
| 2a | ME 🡪 USER | ME may display the message |  |
| 2b | ME 🡪 UICC | ME shall not download the CB message to the UICC using ENVELOPE (CELL BROADCAST DOWNLOAD) |  |
| 3 | USER 🡪 ME | The user shall use a MMI dependent procedure to initiate the display of the received CB message | [only if message has not been displayed in step 2a] |
| 4 | ME 🡪 USER | ME displays the message | [only if message has not been displayed in step 2a] |

Cell Broadcast Message 1.2

Logically:

Message Content

Serial Number

Geographical scope: Cell wide, normal display mode

Message code: 1

Update number: 1

Message Identifier: "03E7"

Data coding Scheme

Message Coding: English, language using the GSM 7 bit default alphabet

Page Parameter

Total number of pages: 1

Page number: 1

Content of message: "Cell Broadcast".

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | C0 | 11 | 03 | E7 | 01 | 11 | C3 | 32 | 9B | 0D | 12 | CA |
|  | DF | 61 | F2 | 38 | 3C | A7 | 83 | 40 | 20 | 10 | 08 | 04 |
|  | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 |
|  | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 |
|  | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 |
|  | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 | 10 | 08 |
|  | 04 | 02 | 81 | 40 | 20 | 10 | 08 | 04 | 02 | 81 | 40 | 20 |
|  | 10 | 08 | 04 | 02 |  |  |  |  |  |  |  |  |

Expected Sequence 1.4 (Cell Broadcast (UMTS), ENVELOPE (CELL BROADCAST DOWNLOAD), ME does not display message)

TBD

Expected Sequence 1.5 (Cell Broadcast (UMTS), ENVELOPE (CELL BROADCAST DOWNLOAD), FETCH, MORE TIME, ME does not display message)

TBD

Expected Sequence 1.6 (Cell Broadcast (UMTS), ME displays message)

TBD

Expected Sequence 1.7 (Cell Broadcast (GSM),, ENVELOPE (CELL BROADCAST DATA DOWNLOAD), FETCH, MORE TIME, ME does not display message, User Data Header Payload)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USS → ME | CELL BROADCAST Message 1.7 | Message identifier '10 01' |
| 2 | ME → UICC | ENVELOPE (CELL BROADCAST DOWNLOAD) 1.7 |  |
| 3 | UICC → ME | PROACTIVE COMMAND PENDING: MORE TIME 1.2 | SW1/SW2 '91 0B' |
| 4 | ME → UICC | FETCH 1.2 |  |
| 5 | UICC → ME | PROACTIVE COMMAND:MORE TIME 1.2 |  |
| 6 | ME → UICC | TERMINAL RESPONSE: MORE TIME 1.2 |  |
| 7 | UICC → ME | SW1/SW2 '90 00' | UICC session ended |

CELL BROADCAST Message 1.7

Logically:

Message Content

Serial Number

Geographical scope: Cell wide, normal display mode

Message code: 1

Update number: 1

Message Identifier: "1001"

Data coding Scheme

Message Coding: 8 bit data

Message class: Class 2 (U)SIM specific message

Page Parameter

Total number of pages: 1

Page number: 1

Secured User Header (Content of message)

TP-UDHL 2

IEI (U)SIM Toolkit Security Headers

IEIL 0

Command Packet Length: 77

Command Header Identifier: 0

Command Header Length: 13

Security Parameter Indicator: No RC, CC or DS and No PoR reply to the Sending Entity

Ciphering Key Identifier: Algorithm known implicitly by both entities

Key Identifier: Algorithm known implicitly by both entities

Toolkit Application Reference: Proprietary Toolkit Application

Counter: 1

Padding Counter: 0 (no padding is necessary)

Secure Data: 62 octets set to 'DC' (dummy data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | C0 | 11 | 10 | 01 | 96 | 11 | 02 | 70 | 00 | 00 | 4D | 00 |
|  | 0D | 00 | 00 | 00 | 00 | BF | FF | 00 | 00 | 00 | 00 | 00 |
|  | 01 | 00 | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC |  |  |  |  |  |  |  |  |

ENVELOPE: CELL BROADCAST DOWNLOAD 1.7

Logically:

Cell Broadcast Download

Device identities

Source device: Network

Destination device: UICC

Cell Broadcast page

Serial Number

Geographical scope: Cell wide, normal display mode

Message code: 1

Update number: 1

Message Identifier: "1001"

Data coding Scheme

Message Coding: 8 bit data (Message with User Data Header (UDH) structure)

Message class: Class 2 (U)SIM specific message

Page Parameter

Number of pages: 1

Page number: 1

Secured User Header (Content of message)

TP-UDHL 2

IEI (U)SIM Toolkit Security Headers

IEIL 0

Command Packet Length: 77

Command Header Identifier: 0

Command Header Length: 13

Security Parameter Indicator: No RC, CC or DS and No PoR reply to the Sending Entity

Ciphering Key Identifier: Algorithm known implicitly by both entities

Key Identifier: Algorithm known implicitly by both entities

Toolkit Application Reference: Proprietary Toolkit Application

Counter: 1

Padding Counter: 0 (no padding is necessary)

Secure Data: 62 octets set to 'DC' (dummy data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D2 | 5E | 82 | 02 | 83 | 81 | 8C | 58 | C0 | 11 | 10 | 01 |
|  | 96 | 11 | 02 | 70 | 00 | 00 | 4D | 00 | 0D | 00 | 00 | 00 |
|  | 00 | BF | FF | 00 | 00 | 00 | 00 | 00 | 01 | 00 | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC | DC |

PROACTIVE COMMAND: MORE TIME 1.2

Logically:

Command details

Command number: 1

Command type: MORE TIME

Command qualifier: "00"

Device identities

Source device: UICC

Destination device: ME

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 09 | 81 | 03 | 01 | 02 | 00 | 82 | 02 | 81 | 82 |

TERMINAL RESPONSE: MORE TIME 1.2

Logically:

Command details

Command number: 1

Command type: MORE TIME

Command qualifier: "00"

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 02 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

##### 27.22.5.2.5 Test requirement

The ME shall operate in the manner defined in expected sequences 1.1 to 1.7.

#### 27.22.5.3 SMS-PP Data Download over IMS

##### 27.22.5.3.1 Definition and applicability

See clause 3.2.2.

For IMS: That the UE correctly implemented the role of an SMS-over-IP receiver is tested in clause 18.2 of TS 34.229-1 [36].

##### 27.22.5.3.2 Conformance requirement

The ME shall support the Proactive UICC: SMS-PP Data Download facility for SMS over IP as defined in the following technical specifications:

- TS 31.111 [15] clause 5, clause 7.1, clause 8.1, clause 8.7, clause 8.13 and clause 11.

- TS 31.115 [28] clause 4.

- TS 23.038 [7] clause 4.

- TS 34.229 [36], Annexes C.2, C.17 and C.18.

- TS 24.341 [37], clause 5.3.2.4.

##### 27.22.5.3.3 Test purpose

To verify that the ME transparently passes the "data download via SMS Point-to-point" messages which have been received over IMS to the UICC.

To verify that the ME returns the RP-ACK message back to the E-USS/USS, if the UICC responds with '90 00', '91 XX', '62 XX' or '63 XX'. In case of IMS the RP-ACK message is contained in the SIP MESSAGE for the SM delivery report.

To verify that the ME with an SMS-PP download feature implementation prior to Rel-11 returns the RP-ERROR message in the SIP MESSAGE for the SM delivery report to the E-USS/USS, if the UICC responds with '62 XX' or '63 XX' (while the ME with the Rel-11 or later implementation of this feature return an RP-ACK in this case). In case of IMS the RP-ERROR message is contained in the SIP MESSAGE for the SM delivery report.

To verify that the ME returns available response data from the UICC in the TP-User-Data element of the RP-ACK message back to the E-USS/USS. In case of IMS the RP-ACK message is contained in the SIP MESSAGE for the SM delivery report.

##### 27.22.5.3.4 Method of Test

27.22.5.3.4.1 Initial conditions

The ME is connected to the USIM Simulator. The elementary files are coded as defined for the E-UTRAN/EPC ISIM-UICC in clause 27.22.2C.

For sequence 3.1 the ME is additionally connected to the E-USS.

For sequence 3.2 the ME is additionally connected to the USS.

27.22.5.3.4.2 Procedure

Expected Sequence 3.1 (SMS-PP Data Download over IMS, E-UTRAN)

Perform the "IMS related procedure 1" and continue with "Generic Test Procedure 1 (SMS-PP Data Download)" as defined in this clause as "Expected Sequence 3.1" with the following parameters:

- Used Network Simulator (NWS): E-USS

- SMS-over-IP is used to send and receive short messages

- ME supports eFDD or eTDD and SMS-over-IP

Expected Sequence 3.2 (SMS-PP Data Download over IMS, UTRAN)

Perform the "IMS related procedure 1" and continue with "Generic Test Procedure 1 (SMS-PP Data Download)" as defined in this clause as "Expected Sequence 3.2" with the following parameters:

- Used Network Simulator (NWS): USS (UMTS System Simulator only)

- SMS-over-IP is used to send and receive short messages

- ME supports UTRAN

IMS related procedure 1:

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USER → ME | The ME is switched on | ME will perform Profle Download, USIM and ISIM initialisation |
| 2 | ME → NWS | ME activates the required bearer, discovers P-CSCF and registers with the values from the ISIM to IMS services | For E-UTRAN:  The EPS bearer context activation according to the procedures defined in TS 34.229-1 [36], Annex C.2 and C.18 is performed  For UTRAN:  For SMS-over-IP a PDP context activation according to the procedures defined in TS 34.229-1 [36], Annex C.2 and C.17 is performed. |
| 3 |  | CONTINUE WITH STEP 4 Generic Test Procedure 1 (SMS-PP Data Download) |  |

Generic Test Procedure 1 (SMS-PP Data Download)

| **Step** | **Direction** | **MESSAGE / Action** | **Comments** |
| --- | --- | --- | --- |
| 4 | NWS → ME | SMS-PP Data Download Message 3.1.1 | See Note 1. |
| 5 | ME → USER | The ME shall not display the message or alert the user of a short message waiting. |  |
| 6 | ME → UICC | ENVELOPE: SMS-PP DOWNLOAD 3.1.1 |  |
| 7 | UICC → ME | SMS-PP Data Download UICC Acknowledgement 3.1.1 | [SW1 / SW2 of '90 00'] |
| 8 | ME → NWS | SMS-PP Data Download UICC Acknowledgement 3.1.1 in the TP-User-Data element of the RP-ACK message. The values of protocol identifier and data coding scheme in RP-ACK shall be as in the original message. | See Note 2. |
| 9 | NWS → ME | SMS-PP Data Download Message 3.1.2 | See Note 1. |
| 10 | ME → USER | The ME shall not display the message or alert the user of a short message waiting |  |
| 11 | ME → UICC | ENVELOPE: SMS-PP DOWNLOAD 3.1.2 |  |
| 12 | UICC → ME | PROACTIVE COMMAND PENDING: MORE TIME 3.1.1 | [SW1 / SW2 of '91 0B'] |
| 13 | ME → NWS | RP-ACK | See Note 2. |
| 14 | ME → UICC | FETCH |  |
| 15 | UICC → ME | PROACTIVE COMMAND: MORE TIME 3.1.1 |  |
| 16 | ME → UICC | TERMINAL RESPONSE: MORE TIME 3.1.1 |  |
| 17 | UICC → ME | PROACTIVE UICC SESSION ENDED |  |
| 18 | NWS → ME | SMS-PP Data Download Message 3.1.3 | See Note 1. |
| 19 | ME | The ME shall not display the message or alert the user of a short message waiting |  |
| 20 | ME → UICC | ENVELOPE: SMS-PP DOWNLOAD 3.1.3 |  |
| 21 | UICC → ME | SW1 / SW2 of '90 00' |  |
| 22 | ME → NWS | RP-ACK | See Note 2. |
| 23 | NWS → ME | SMS-PP Data Download Message 3.1.1 | See Note 1. |
| 24 | ME → USER | The ME shall not display the message or alert the user of a short message waiting. |  |
| 25 | ME → UICC | ENVELOPE: SMS-PP DOWNLOAD 3.1.1 |  |
| 26 | UICC → ME | SMS-PP Data Download UICC Acknowledgement 3.1.4 | [SW1 / SW2 of '62 xx' or '63 xx'] |
| 27 | ME → NWS | IF A.1/154\_THEN  SMS-PP Data Download UICC Acknowledgement 3.1.4 in the TP-User-Data element of the RP-ACK message. The values of protocol identifier and data coding scheme in RP-ACK shall be as in the original message.  ELSE  IF (NOT A.1/154) THENSMS-PP Data Download UICC Acknowledgement 3.1.4 in the TP-User-Data element of the RP-ERROR message. The values of protocol identifier and data coding scheme in RP-ERROR shall be as in the original message. | See Note 2.  See Note 3. |
| 28 | NWS → ME | SMS-PP Data Download Message 3.1.5 | See Note 1. |
| 29 | ME | The ME shall not display the message or alert the user of a short message waiting |  |
| 30 | ME → UICC | ENVELOPE: SMS-PP DOWNLOAD 3.1.5 |  |
| 31 | UICC → ME | SW1 / SW2 of '90 00' |  |
| 32 | ME → NWS | RP-ACK | See Note 2. |
| 33 | USER → ME | The ME is switched off |  |
| Note 1: In case of IMS the SMS-PP Data Download Message is contained in the message body of the SIP MESSAGE.  Note 2: In case of IMS the RP-ACK message is contained in the message body of the SIP MESSAGE.  Note 3: In case of IMS the RP-ERROR message is contained in the message body of the SIP MESSAGE. | | | |

SMS-PP (Data Download) Message 3.1.1

Logically:

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "1234"

TP-PID (U)SIM Data download

TP-DCS

Coding Group General Data Coding

Compression Text is uncompressed

Message Class Class 2 (U)SIM Specific Message

Alphabet 8 bit data

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 1"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 04 | 04 | 91 | 21 | 43 | 7F | 16 | 89 | 10 | 10 | 00 | 00 |
|  | 00 | 00 | 0D | 54 | 65 | 73 | 74 | 4D | 65 | 73 | 73 | 61 |
|  | 67 | 65 | 20 | 31 |  |  |  |  |  |  |  |  |

ENVELOPE: SMS-PP DOWNLOAD 3.1.1

Logically:

SMS-PP Download

Device identities

Source device: Network

Destination device: UICC

Address

TON International number

NPI "ISDN / telephone numbering plan"

Dialling number string "112233445566778"

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "1234"

TP-PID (U)SIM Data download

TP-DCS

Coding Group General Data Coding

Compression Text is uncompressed

Message Class Class 2 (U)SIM Specific Message

Alphabet 8 bit data

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 1"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D1 | 2D | 82 | 02 | 83 | 81 | 06 | 09 | 91 | 11 | 22 | 33 |
|  | 44 | 55 | 66 | 77 | F8 | 8B | 1C | 04 | 04 | 91 | 21 | 43 |
|  | 7F | 16 | 89 | 10 | 10 | 00 | 00 | 00 | 00 | 0D | 54 | 65 |
|  | 73 | 74 | 4D | 65 | 73 | 73 | 61 | 67 | 65 | 20 | 31 |  |

SMS-PP Data Download UICC Acknowledgement 3.1.1

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 44 | 61 | 74 | 61 | 20 | 41 | 63 | 6B |

SMS-PP (Data Download) Message 3.1.2

Logically:

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "2143"

TP-PID (U)SIM Data download

TP-DCS

Coding Group General Data Coding

Compression Text is uncompressed

Message Class Class 2 (U)SIM Specific Message

Alphabet 8 bit data

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 2"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 04 | 04 | 91 | 12 | 34 | 7F | 16 | 89 | 10 | 10 | 00 | 00 |
|  | 00 | 00 | 0D | 54 | 65 | 73 | 74 | 4D | 65 | 73 | 73 | 61 |
|  | 67 | 65 | 20 | 32 |  |  |  |  |  |  |  |  |

ENVELOPE: SMS-PP DOWNLOAD 3.1.2

Logically:

SMS-PP Download

Device identities

Source device: Network

Destination device: UICC

Address

TON International number

NPI "ISDN / telephone numbering plan"

Dialling number string "112233445566778"

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "2143"

TP-PID (U)SIM Data download

TP-DCS

Coding Group General Data Coding

Compression Text is uncompressed

Message Class Class 2 (U)SIM Specific Message

Alphabet 8 bit data

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 2"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D1 | 2D | 82 | 02 | 83 | 81 | 06 | 09 | 91 | 11 | 22 | 33 |
|  | 44 | 55 | 66 | 77 | F8 | 8B | 1C | 04 | 04 | 91 | 12 | 34 |
|  | 7F | 16 | 89 | 10 | 10 | 00 | 00 | 00 | 00 | 0D | 54 | 65 |
|  | 73 | 74 | 4D | 65 | 73 | 73 | 61 | 67 | 65 | 20 | 32 |  |

PROACTIVE COMMAND: MORE TIME 1.1.1

Logically:

Command details

Command number: 1

Command type: MORE TIME

Command qualifier: "00"

Device identities

Source device: UICC

Destination device: ME

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 09 | 81 | 03 | 01 | 02 | 00 | 82 | 02 | 81 | 82 |

TERMINAL RESPONSE: MORE TIME 1.1.1

Logically:

Command details

Command number: 1

Command type: MORE TIME

Command qualifier: "00"

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 02 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

SMS-PP (Data Download) Message 3.1.3

Logically:

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "2233"

TP-PID (U)SIM Data download

TP-DCS

Coding Group Data Coding / Message Class

Message Coding 8 bit data

Message Class Class 2 (U)SIM Specific Message

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 3"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 04 | 04 | 91 | 22 | 33 | 7F | F6 | 89 | 10 | 10 | 00 | 00 |
|  | 00 | 00 | 0D | 54 | 65 | 73 | 74 | 4D | 65 | 73 | 73 | 61 |
|  | 67 | 65 | 20 | 33 |  |  |  |  |  |  |  |  |

ENVELOPE: SMS-PP DOWNLOAD 3.1.3

Logically:

SMS-PP Download

Device identities

Source device: Network

Destination device: UICC

Address

TON International number

NPI "ISDN / telephone numbering plan"

Dialling number string "112233445566778"

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains only the short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "2233"

TP-PID (U)SIM Data download

TP-DCS

Coding Group Data Coding / Message Class

Message Coding 8 bit data

Message Class Class 2 (U)SIM Specific Message

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 13

TP-UD "TestMessage 3"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D1 | 2D | 82 | 02 | 83 | 81 | 06 | 09 | 91 | 11 | 22 | 33 |
|  | 44 | 55 | 66 | 77 | F8 | 8B | 1C | 04 | 04 | 91 | 22 | 33 |
|  | 7F | F6 | 89 | 10 | 10 | 00 | 00 | 00 | 00 | 0D | 54 | 65 |
|  | 73 | 74 | 4D | 65 | 73 | 73 | 61 | 67 | 65 | 20 | 33 |  |

SMS-PP Data Download UICC Acknowledgement 3.1.4

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 44 | 61 | 74 | 61 | 20 | 45 | 72 | 72 | 65 | 72 |

SMS-PP (Data Download) Message 3.1.5

Logically:

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains user data header and a short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "1234"

TP-PID (U)SIM Data download

TP-DCS

Coding Group Data Coding / Message Class

Message Coding 8 bit data

Message Class Class 2 (U)SIM Specific Message

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 30

TP-UD

TP-UDHL 2

IEI (U)SIM Toolkit Security Headers

IEIL 0

SM (8 bit data)

Command Packet Length: 25

Command Header Identifier: 0

Command Header Length: 13

Security Parameter Indicator: No RC, CC or DS and No PoR reply to the Sending Entity

Ciphering Key Identifier: Algorithm known implicitly by both entities

Key Identifier: Algorithm known implicitly by both entities

Toolkit Application Reference: Proprietary Toolkit Application

Counter: 1

Padding Counter: 0 (no padding is necessary)

Secure Data: 10 octets set to 'DC' (dummy data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 44 | 04 | 91 | 21 | 43 | 7F | F6 | 89 | 10 | 10 | 00 | 00 |
|  | 00 | 00 | 1E | 02 | 70 | 00 | 00 | 19 | 00 | 0D | 00 | 00 |
|  | 00 | 00 | BF | FF | 00 | 00 | 00 | 00 | 00 | 01 | 00 | DC |
|  | DC | DC | DC | DC | DC | DC | DC | DC | DC |  |  |  |

ENVELOPE: SMS-PP DOWNLOAD 3.1.5

Logically:

SMS-PP Download

Device identities

Source device: Network

Destination device: UICC

Address

TON International number

NPI "ISDN / telephone numbering plan"

Dialling number string "112233445566778"

SMS TPDU

TP-MTI SMS-DELIVER

TP-MMS No more messages waiting for the MS in this SC

TP-RP TP-Reply-Path is not set in this SMS-DELIVER

TP-UDHI TP-UD field contains user data header and a short message

TP-SRI A status report will not be returned to the SME

TP-OA

TON International number

NPI "ISDN / telephone numbering plan"

Address value "1234"

TP-PID (U)SIM Data download

TP-DCS

Coding Group Data Coding / Message Class

Message Coding 8 bit data

Message Class Class 2 (U)SIM Specific Message

TP-SCTS: 01/01/98 00:00:00 +0

TP-UDL 30

TP-UD

TP-UDHL 2

IEI (U)SIM Toolkit Security Headers

IEIL 0

SM (8 bit data)

Command Packet Length: 25

Command Header Identifier: 0

Command Header Length: 13

Security Parameter Indicator: No RC, CC or DS and No PoR reply to the Sending Entity

Ciphering Key Identifier: Algorithm known implicitly by both entities

Key Identifier: Algorithm known implicitly by both entities

Toolkit Application Reference: Proprietary Toolkit Application

Counter: 1

Padding Counter: 0 (no padding is necessary)

Secure Data: 10 octets set to 'DC' (dummy data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D1 | 3E | 82 | 02 | 83 | 81 | 06 | 09 | 91 | 11 | 22 | 33 |
|  | 44 | 55 | 66 | 77 | F8 | 8B | 2D | 44 | 04 | 91 | 21 | 43 |
|  | 7F | F6 | 89 | 10 | 10 | 00 | 00 | 00 | 00 | 1E | 02 | 70 |
|  | 00 | 00 | 19 | 00 | 0D | 00 | 00 | 00 | 00 | BF | FF | 00 |
|  | 00 | 00 | 00 | 00 | 01 | 00 | DC | DC | DC | DC | DC | DC |
|  | DC | DC | DC | DC |  |  |  |  |  |  |  |  |

##### 27.22.5.3.5 Test requirement

The ME supporting eFDD or eTDD shall operate in the manner defined in expected sequence 3.1.

The ME supporting UTRAN shall operate in the manner defined in expected sequence 3.2.

#### 27.22.5.4 SMS-PP Data Download over SGs in E-UTRAN

##### 27.22.5.4.1 Definition and applicability

See clause 3.2.2.

##### 27.22.5.4.2 Conformance requirement

The ME shall support the Proactive UICC: SMS-PP Data Download facility for SMS over SGs as defined in the following technical specifications:

- TS 31.111 [15] clause 5, clause 7.1, clause 8.1, clause 8.7, clause 8.13 and clause 11.

- TS 31.115 [28] clause 4.

- TS 23.038 [7] clause 4.

- TS 24.301 [32] clause 5.6.3.1, 5.6.3.3 and 9.9.3.22

##### 27.22.5.4.3 Test purpose

To verify that the ME transparently passes the "data download via SMS Point-to-point" messages to the UICC.

To verify that the ME returns the RP-ACK message back to the USS, if the UICC responds with '90 00', '91 XX', '62 XX' or '63 XX'.

To verify that the ME with an SMS-PP download feature implementation prior to Rel-11 returns the RP-ERROR message back to the system Simulator, if the UICC responds with '62 XX' or '63 XX' (while the ME with the Rel-11 or later implemention of this feature return an RP-ACK in this case).

To verify that the ME returns the response data from the UICC back to the USS in the TP-User-Data element of the RP-ACK message, if the UICC returns response data'.

##### 27.22.5.4.4 Method of Test

27.22.5.4.4.1 Initial conditions

The ME is connected to the USIM Simulator and connected to the E-USS/NB-SS.

The "data download via SMS-PP" service is available in the USIM Service Table.

27.22.5.4.4.2 Procedure

Expected Sequence 4.1 (SMS-PP Data Download over SGs, E-UTRAN)

Perform the "SMS over SGs related procedure" and continue with "Generic Test Procedure 1 (SMS-PP Data Download)" as defined in this clause 27.22.5.3.4.2 as "Expected Sequence 4.1" with the following parameters:

* Used Network Simulator (NWS): E-USS/NB-SS
* SMS over SGs (DOWNLINK NAS TRANSPORT and UPLINK NAS TRANSPORT messages)  
   is used to send and receive short messages
* ME supports eFDD or eTDD or NB-IoT
* ME supports SMS-over-SGs.

SMS over SGs related procedure:

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | USER → ME | The ME is switched on | ME will perform Profle Download and USIM initialisation |
| 2 | ME → NWS | ME performs regular network registration. | UE is afterwards in state Registered, Idle Mode (state 2) according to TS 36.508 [33]. |
| 3 |  | CONTINUE WITH STEP 4 Generic Test Procedure 1 (SMS-PP Data Download) in clause 27.22.5.3.4.2 |  |

##### 27.22.5.4.5 Test requirement

The ME shall operate in the manner defined in expected sequence 4.1.

### 27.22.6 CALL CONTROL BY USIM

#### 27.22.6.1 Procedure for Mobile Originated calls

##### 27.22.6.1.1 Definition and applicability

See clause 3.2.2.

##### 27.22.6.1.2 Conformance requirement

The ME shall support the CALL CONTROL facility as defined in:

- TS 31.111 [15] clause 7.3

##### 27.22.6.1.3 Test purpose

To verify that for all call set-up attempts , even those resulting from a SET UP CALL proactive UICC command, the ME shall first pass the call set-up details (dialled digits and associated parameters) to the UICC, using the ENVELOPE (CALL CONTROL).

To verify that if the UICC responds with '90 00', the ME shall set up the call with the dialled digits and other parameters as sent to the UICC.

To verify that if the UICC returns response data, the ME shall use the response data appropriately to set up the call as proposed, not set up the call, or set up a call using the data supplied by the UICC.

To verify that, in the case where the initial call set-up request results from a proactive SET UP CALL, if the call control result is "not allowed" or "allowed with modifications", the ME shall inform the UICC using TERMINAL RESPONSE "interaction with call control by UICC or MO short message control by UICC, action not allowed".

To verify that it is possible for the UICC to request the ME to set up an emergency call by supplying the number "112" as the response data.

##### 27.22.6.1.4 Method of tests

27.22.6.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and USS and has performed the location update procedure.

The GERAN/UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

The PCS 1900 parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 011;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The elementary files are coded as USIM Application Toolkit default with the following exceptions:

1) The call control service is available in the USIM Service Table.

2) Only for sequence 1.9:

**EFECC (Emergency Call Codes)**

Logically:

Emergency call code: "1020";

Emergency call code alpha identifier: empty;

Emergency call Service Category: RFU

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding: | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 |
| Hex | 01 | 02 | FF | FF | FF | FF | FF | FF |

27.22.6.1.4.2 Procedure

Expected Sequence 1.1 (CALL CONTROL BY USIM , set up call attempt by user, the USIM responds with '90 00')

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.1.1A Or ENVELOPE CALL CONTROL 1.1.1B | [Option A shall apply for 3GPP parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | 90 00 |  |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789" |

ENVELOPE CALL CONTROL 1.1.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.1.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

Expected Sequence 1.2 (CALL CONTROL BY USIM , set up call attempt by user, allowed without modification)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.2.1 A or ENVELOPE CALL CONTROL 1.2.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.2.1 | [Call control result: "Allowed, no modification"] |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789"] |

ENVELOPE CALL CONTROL 1.2.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.2.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

CALL CONTROL RESULT 1.2.1

Logically:

Call control result: '00' = Allowed, no modification

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 00 | 00 |

Expected Sequence 1.3A (CALL CONTROL BY USIM , set up call attempt resulting from a set up call proactive command, allowed without modification)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.3.1 PENDING | [This test applies to MEs asking for user confirmation before sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.3.1 | [Set up call to "+012340123456"] |
| 4 | ME → USER | ME displays "+012340123456" during user confirmation phase. |  |
| 5 | USER → ME | The user confirms the call set up | [user confirmation] |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.3.1A or ENVELOPE CALL CONTROL 1.3.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.3.1 | [Call control result: "Allowed, no modification"] |
| 8 | ME USS | The ME sets up the call without modification | [Set up call to "+012340123456"] |
| 9 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.3.1 | [command performed successfully] |

Expected Sequence 1.3 B (CALL CONTROL BY USIM , set up call attempt resulting from a set up call proactive command, allowed without modification)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.3.1 PENDING | [This test applies to MEs asking for user confirmation after sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.3.1 | [Set up call to "+012340123456"] |
| 4 | ME  UICC | ENVELOPE CALL CONTROL 1.3.1A or ENVELOPE CALL CONTROL 1.3.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 5 | UICC  ME | CALL CONTROL RESULT 1.3.1 | [Call control result: "Allowed, no modification"] |
| 6 | ME → USER | ME displays "+012340123456" during user confirmation phase. |  |
| 7 | USER → ME | The user confirms the call set up | [user confirmation] |
| 8 | ME USS | The ME sets up the call without modification | [Set up call to "+012340123456"] |
| 9 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.3.1 | [command performed successfully] |

PROACTIVE COMMAND: SET UP CALL 1.3.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: UICC

Destination device: Network

Alpha identifier: "+012340123456"

Address

TON: International

NPI: "ISDN / telephone numbering plan"

Dialling number string "012340123456"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 21 | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 81 | 83 |
|  | 05 | 0D | 2B | 30 | 31 | 32 | 33 | 34 | 30 | 31 | 32 |
|  | 33 | 34 | 35 | 36 | 86 | 07 | 91 | 10 | 32 | 04 | 21 |
|  | 43 | 65 |  |  |  |  |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.3.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | Note 5 | 00 | F1 | 10 |
|  | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.3.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | 07 | 00 | 11 | 10 |
|  | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |  |

Note 1: Length of BER-TLV is '16' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

CALL CONTROL RESULT 1.3.1

Logically:

Call control result: '00' = Allowed, no modification

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 00 | 00 |

TERMINAL RESPONSE: SET UP CALL 1.3.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

Expected Sequence 1.4 (CALL CONTROL BY USIM , set up call attempt by user, not allowed)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.4.1 A or ENVELOPE CALL CONTROL 1.4.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.4.1 | [Call control result: "not Allowed"] |
| 4 | ME USS | The ME does not set up the call |  |

ENVELOPE CALL CONTROL 1.4.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "+01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.4.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "+01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

CALL CONTROL RESULT 1.4.1

Logically:

Call control result: '01' = not Allowed

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 01 | 00 |

Expected Sequence 1.5A (CALL CONTROL BY USIM , set up call attempt resulting from a set up call proactive command, not allowed)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.5.1 PENDING | [This test applies to MEs asking for user confirmation before sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.5.1 | [Set up call to "+012340123456" |
| 4 | ME → USER | ME displays "+012340123456" during user confirmation phase. |  |
| 5 | USER → ME | The user confirms the call set up | [user confirmation] |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.5.1A or ENVELOPE CALL CONTROL 1.5.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.5.1 | [Call control result: "Not Allowed"] |
| 8 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.5.1 | [Permanent Problem - Interaction with Call Control by USIM] |
| 9 | ME USS | The ME does not set up the call |  |

Expected Sequence 1.5 B (CALL CONTROL BY USIM , set up call attempt resulting from a set up call proactive command, not allowed)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.5.1 PENDING | [This test applies to MEs asking for user confirmation after sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.5.1 | [Set up call to "+012340123456" |
| 4 | ME  UICC | ENVELOPE CALL CONTROL 1.5.1A or ENVELOPE CALL CONTROL 1.5.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 5 | UICC  ME | CALL CONTROL RESULT 1.5.1 | [Call control result: "Not Allowed"] [No user confirmation phase because Call Control has disallowed the request] |
| 6 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.5.1 | [Permanent Problem - Interaction with Call Control by USIM] |
| 7 | ME USS | The ME does not set up the call |  |

PROACTIVE COMMAND: SET UP CALL 1.5.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: UICC

Destination device: Network

Alpha identifier: "+012340123456"

Address

TON: International

NPI: "ISDN / telephone numbering plan"

Dialling number string "012340123456"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 21 | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 81 | 83 |
|  | 05 | 0D | 2B | 30 | 31 | 32 | 33 | 34 | 30 | 31 | 32 |
|  | 33 | 34 | 35 | 36 | 86 | 07 | 91 | 10 | 32 | 04 | 21 |
|  | 43 | 65 |  |  |  |  |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.5.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | Note 5 | 00 | F1 | 10 |
|  | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.5.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | 07 | 00 | 11 | 10 |
|  | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |  |

Note 1: Length of BER-TLV is '16' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

CALL CONTROL RESULT 1.5.1

Logically:

Call control result: '01' = not Allowed

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 01 | 00 |

TERMINAL RESPONSE: SET UP CALL 1.5.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Interaction with call control by USIM or MO short message control by USIM, permanent problem

Additional information: Action not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 82 | 81 | 83 | 02 | 39 |
|  | 01 |  |  |  |  |  |  |  |  |  |  |  |

Expected Sequence 1.6 (CALL CONTROL BY USIM , set up call attempt by user, allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.6.1 A or ENVELOPE CALL CONTROL 1.6.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.6.1 | [Call control result: "Allowed with modifications", ] |
| 4 | ME USS | The ME sets up the call to "+010203" |  |

ENVELOPE CALL CONTROL 1.6.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.6.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 1.6.1

Logically:

Call control result: '02' = Allowed with modifications

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "010203"

Coding:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 06 | 86 | 04 | 91 | 10 | 20 | 30 |

Expected Sequence 1.7A (CALL CONTROL BY USIM, set up call attempt resulting from a set up call proactive command, allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.7.1 PENDING | [This test applies to MEs asking for user confirmation before sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.7.1 | [Set up call to "+012340123456"] |
| 4 | ME → USER | ME displays "+012340123456" during user confirmation phase. |  |
| 5 | USER → ME | The user confirms the call set up | [user confirmation] |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.7.1A or ENVELOPE CALL CONTROL 1.7.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.7.1 | [Call control result: "Allowed with modifications"] |
| 8 | ME USS | The ME sets up the call to "+011111111111" |  |
| 9 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.7.1 | [command performed successfully] |

Expected Sequence 1.7 B (CALL CONTROL BY USIM, set up call attempt resulting from a set up call proactive command, allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.7.1 PENDING | [This test applies to MEs asking for user confirmation after sending the ENVELOPE CALL CONTROL command] |
| 2 | MEUICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 1.7.1 | [Set up call to "+012340123456"] |
| 4 | ME  UICC | ENVELOPE CALL CONTROL 1.7.1A or ENVELOPE CALL CONTROL 1.7.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 5 | UICC  ME | CALL CONTROL RESULT 1.7.1 | [Call control result: "Allowed with modifications"] |
| 6 | ME → USER | ME displays "+012340123456" during user confirmation phase. |  |
| 7 | USER → ME | The user confirms the call set up | [user confirmation] |
| 8 | ME USS | The ME sets up the call to "+011111111111" | [call is set up to modified address] |
| 9 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 1.7.1 | [command performed successfully] |

PROACTIVE COMMAND: SET UP CALL 1.7.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: UICC

Destination device: Network

Alpha identifier: "+012340123456"

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 21 | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 81 | 83 |
|  | 05 | 0D | 2B | 30 | 31 | 32 | 33 | 34 | 30 | 31 | 32 |
|  | 33 | 34 | 35 | 36 | 86 | 07 | 91 | 10 | 32 | 04 | 21 |
|  | 43 | 65 |  |  |  |  |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.7.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | Note 5 | 00 | F1 | 10 |
|  | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |  |

ENVELOPE CALL CONTROL 1.7.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "012340123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 02 | 02 | 82 | 81 | 06 | 07 | 91 | 10 | 32 |
|  | 04 | 21 | 43 | 65 | Note 2 | Note 3 | 13 | 07 | 00 | 11 | 10 |
|  | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |  |

Note 1: Length of BER-TLV is '16' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 1.7.1

Logically:

Call control result: '02' = Allowed with modifications

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "011111111111"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 09 | 86 | 07 | 91 | 10 | 11 | 11 | 11 | 11 | 11 |

TERMINAL RESPONSE: SET UP CALL 1.7.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

Expected Sequence 1.8 (CALL CONTROL BY USIM , set up call attempt by user, allowed with modifications: emergency call)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.8.1A or ENVELOPE CALL CONTROL 1.8.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters |
| 3 | UICC  ME | CALL CONTROL RESULT 1.8.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | The ME sets up an emergency call; |  |

ENVELOPE CALL CONTROL 1.8.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.8.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 1.8.1

Logically:

Call control result Allowed, with modification

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Address value "112"

Coding:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 05 | 86 | 03 | 81 | 11 | F2 |

Expected Sequence 1.9 (CALL CONTROL BY USIM , set up call attempt by user, allowed with modifications: number in EFECC)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.9.1A or ENVELOPE CALL CONTROL 1.9.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.9.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | The ME sets up call with the dialled digits "1020". The ME does not set up an emergency call, but sets up a normal call |  |

ENVELOPE CALL CONTROL 1.9.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | Note 5 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |  |  |  |  |

ENVELOPE CALL CONTROL 1.9.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON: International

NPI: "ISDN / telephone numbering plan" or "unknown"

Dialling number string "01234567890123456789"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 0B | 91 | 10 | 32 | 54 |
|  | 76 | 98 | 10 | 32 | 54 | 76 | 98 | Note 2 | Note 3 | 13 | 07 | 00 |
|  | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |  |  |  |  |

Note 1: Length of BER-TLV is '1A' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 1.9.1

Logically:

Call control result Allowed, with modification

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Address value "1020"

Coding:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 05 | 86 | 03 | 81 | 01 | 02 |

Expected Sequence 1.10 (CALL CONTROL BY USIM , set up call attempt by user to an emergency call)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "112" |  |
| 2 | ME UICC | The ME does not send any ENVELOPE CALL CONTROL |  |
| 3 | ME USS | The ME sets up an emergency call |  |

Expected Sequence 1.11 (CALL CONTROL BY USIM , set up call through call register, the USIM responds with '90 00')

Pre-condition: the ME has a mean to register the last dialled number(s), and the ME will store dialled numbers allowed by call control in its register.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.1.1A or ENVELOPE CALL CONTROL 1.1.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | 90 00 |  |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789"] |
| 5 | USER  ME | End Call. |  |
| 6 | USER  ME | Recall the last dialled number |  |
| 7 | ME  UICC | ENVELOPE CALL CONTROL 1.1.1A or ENVELOPE CALL CONTROL 1.1.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 8 | UICC  ME | 90 00 |  |
| 9 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789"] |
| 10 | USER  ME | End Call. |  |

Expected Sequence 1.12 (CALL CONTROL BY USIM , set up call through call register, allowed without modification)

Pre-condition: the ME has a mean to register the last dialled number(s), and the ME will store dialled numbers allowed by call control in its register.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.2.1A or ENVELOPE CALL CONTROL 1.2.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.2.1 | [Call control result: "Allowed, no modification"] |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789"] |
| 5 | User  ME | End the call then call the last dialled number |  |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.2.1A or ENVELOPE CALL CONTROL 1.2.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.2.1 |  |
| 8 | ME USS | The ME sets up the call without modification | [Set up call to "+01234567890123456789"] |

Expected Sequence 1.13 (CALL CONTROL BY USIM , set up call through call register, not allowed)

Pre-condition: the ME has a mean to register the last dialled number(s), and the ME will store dialled numbers not allowed by call control in its register.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.4.1A or ENVELOPE CALL CONTROL 1.4.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.4.1 | [Call control result: "not Allowed"] |
| 4 | ME USS | The ME does not set up the call |  |
| 5 | User  ME | The user calls the last dialled number |  |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.4.1A or ENVELOPE CALL CONTROL 1.4.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.4.1 | [Call control result: "not Allowed"] |
| 8 | ME USS | The ME does not set up the call |  |

Expected Sequence 1.14 (CALL CONTROL BY USIM , set up call through call register, allowed with modifications)

Pre-condition: the ME has a mean to register the last dialled number(s), and the ME will store dialled numbers allowed with modification by call control in its register.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | Set up a call to "+01234567890123456789" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 1.6.1A or ENVELOPE CALL CONTROL 1.6.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 1.6.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | The ME sets up the call to "+010203" |  |
| 5 | User  ME | End call and then set up a call to "+01234567890123456789" |  |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 1.6.1A or ENVELOPE CALL CONTROL 1.6.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 1.6.1 | [Call control result: "Allowed with modifications"] |
| 8 | ME USS | The ME sets up the call to "+010203" |  |

##### 27.22.6.1.5 Test requirement

The ME shall operate in the manner defined in expected sequences 1.1 to 1.14.

#### 27.22.6.2 Procedure for Supplementary (SS) Services

##### 27.22.6.2.1 Definition and applicability

See clause 3.2.2.

##### 27.22.6.2.2 Conformance requirement

The ME shall support the CALL CONTROL facility as defined in the following technical specifications:

- TS 31.111 [15] clause 7.3.1.2.

##### 27.22.6.2.3 Test purpose

To verify that the ME first pass the supplementary service control string corresponding to the supplementary service operation to the USIM, using the ENVELOPE (CALL CONTROL) command.

To verify that, if the UICC responds with '90 00', the ME shall send the supplementary service operation with the information as sent to the UICC.

To verify that, if the UICC returns response data, the ME shall use the response data appropriately to send the supplementary service operation as proposed, not send the SS operation, or instead send the USS operation using the data supplied by the UICC.

##### 27.22.6.2.4 Method of tests

27.22.6.2.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The elementary files are coded as USIM Application Toolkit default with the following exception:

The call control service is available in the USIM Service Table.

The GERAN/UTRAN parameters of the system simulator are:

1. Mobile Country Code (MCC) = 001;
2. Mobile Network Code (MNC) = 01 ;
3. Location Area Code (LAC) = 0001;
4. Cell Identity value = 0001.

The PCS 1900 parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 011;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

27.22.6.2.4.2 Procedure

Expected Sequence 2.1 (CALL CONTROL BY USIM , send SS, the USIM responds with '90 00')

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user selects the facility of the ME which requires an unconditional call forward supplementary service operation to be sent to the network (System Simulator). |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 2.1.1A or ENVELOPE CALL CONTROL 2.1.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | 90 00 |  |
| 4 | ME USS | REGISTER 2.1A or REGISTER 2.1B | [The ME sends the supplementary service operation with the information as sent to the UICC] |
| 5 | USS  ME | RELEASE COMPLETE (SS RETURN RESULT) 2.1 |  |

ENVELOPE CALL CONTROL 2.1.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21\*\*10#"

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note1 | 82 | 02 | 82 | 81 | 89 | 05 | FF | 2A | A1 | 1A |
|  | B0 | 13 | Note 2 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |

Note 1: Length of BER-TLV is '14' plus the actual length of all the present optional SIMPLE-TLV data objects

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 2.1.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21\*\*10#"

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | 14 | 82 | 02 | 82 | 81 | 89 | 05 | FF | 2A | A1 | 1A |
|  | B0 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |  |  |

REGISTER 2.1A

Logically (only SS argument):

ACTIVATE SS ARGUMENT

SS-Code:

- Call Forwarding Unconditional

TeleserviceCode

- All Tele Services

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 30 | 06 | 04 | 01 | 21 | 83 | 01 | 00 |  |  |  |  |

REGISTER 2.1B

Logically (only SS argument):

ACTIVATE SS ARGUMENT

SS-Code:

- Call Forwarding Unconditional

TeleserviceCode

- All Tele Services

LongFTN Supported

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 30 | 08 | 04 | 01 | 21 | 83 | 01 | 00 | 84 | 00 |  |  |

RELEASE COMPLETE (SS RETURN RESULT) 2.1

Logically (only from operation code):

ACTIVATE SS RETURN RESULT

ForwardingInfo

SS-Code

- Call Forwarding Unconditional

ForwardFeatureList

ForwardingFeature

TeleserviceCode

- All Tele Services

SS-Status

- state ind.: operative

- provision ind.: provisioned

- registration ind.: registered

- activation ind.: active

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding | 0C | A0 | 0D | 04 | 01 | 21 | 30 | 08 | 30 | 06 | 83 | 01 |
|  | 00 | 84 | 01 | 07 |  |  |  |  |  |  |  |  |

Expected Sequence 2.2 (CALL CONTROL BY USIM , send SS, allowed without modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user selects the facility of the ME which requires an unconditional call forward supplementary service operation to be sent to the network (System Simulator). |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 2.2.1A or ENVELOPE CALL CONTROL 2.2.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 2.2.1 | [Call control result: "Allowed without modifications"] |
| 4 | ME  USS | REGISTER 2.1A or REGISTER 2.1B | The ME sends the supplementary service operation with the information as sent to the UICC |
| 5 | USS  ME | RELEASE COMPLETE (SS RETURN RESULT) 2.1 |  |

ENVELOPE CALL CONTROL 2.2.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21\*\*10#"

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 89 | 05 | FF | 2A | A1 | 1A |
|  | B0 | 13 | Note 2 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |

Note 1: Length of BER-TLV is '14' plus the actual length of all the present optional SIMPLE-TLV data objects

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 2.2.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21\*\*10#"

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | 14 | 82 | 02 | 82 | 81 | 89 | 05 | FF | 2A | A1 | 1A |
|  | B0 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |  |  |

CALL CONTROL RESULT 2.2.1

Logically:

Call control result Allowed, no modifications

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 00 | 00 |

Expected Sequence 2.3 (CALL CONTROL BY USIM , send SS, not allowed)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user selects the facility of the ME which requires an unconditional call forward supplementary service operation to be sent to the network (System Simulator). |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 2.3.1A or ENVELOPE CALL CONTROL 2.3.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 2.3.1 | [Call control result: "Not Allowed"] |
| 4 | ME USS | The ME does not send the supplementary service operation |  |

ENVELOPE CALL CONTROL 2.3.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21#"

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 89 | 03 | FF | 2A | B1 | 13 |
|  | Note 2 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 2.3.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21#"

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | 12 | 82 | 02 | 82 | 81 | 89 | 03 | FF | 2A | B1 | 13 |
|  | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |  |  |  |  |

CALL CONTROL RESULT 2.3.1

Logically:

Call control result Not Allowed

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 01 | 00 |

Expected Sequence 2.4 (CALL CONTROL BY USIM , send SS, allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user selects the facility of the ME which requires an unconditional call forward supplementary service operation to be sent to the network (System Simulator). |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 2.4.1A or ENVELOPE CALL CONTROL 2.4.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 2.4.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | REGISTER 2.4A or REGISTER 2.4B | [The ME sends the supplementary service operation with the information as sent by the UICC] |
| 5 | USS  ME | RELEASE COMPLETE (SS RETURN RESULT) 2.4 |  |

ENVELOPE CALL CONTROL 2.4.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21#"

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 89 | 03 | FF | 2A | B1 | 13 |
|  | Note 2 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 2.4.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

SS String

TON/NPI: "FF"

Dialling number string "\*21#"

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | 12 | 82 | 02 | 82 | 81 | 89 | 03 | FF | 2A | B1 | 13 |
|  | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |  |  |  |  |

CALL CONTROL RESULT 2.4.1

Logically:

Call control result Allowed, with modifications

SS String

TON/NPI "FF"

SS String "\*#21#"

Coding:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 06 | 89 | 04 | FF | BA | 12 | FB |

REGISTER 2.4A

Logically (only SS argument):

INTERROGATE SS ARGUMENT

SS-Code

- Call Forwarding Unconditional

Coding:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BER-TLV | 30 | 03 | 04 | 01 | 21 |

REGISTER 2.4B

Logically (only SS argument):

INTERROGATE SS ARGUMENT

SS-Code

- Call Forwarding Unconditional

LongFTN Supported

Coding:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV | 30 | 05 | 04 | 01 | 21 | 84 | 00 |

RELEASE COMPLETE (SS RETURN RESULT) 2.4

Logically (only from operation code):

INTERROGATE SS RESULT

Call Forwarding Unconditional

SS-Status

- state ind.: operative

- provision ind.: provisioned

- registration ind.: registered

- activation ind.: not active

Coding:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV | 80 | 01 | 06 |  |  |  |  |  |  |

##### 27.22.6.2.5 Test requirement

The ME shall operate in the manner defined in expected sequences 2.1 to 2.4.

#### 27.22.6.3 Interaction with Fixed Dialling Number (FDN)

##### 27.22.6.3.1 Definition and applicability

See clause 3.2.2.

##### 27.22.6.3.2 Conformance requirement

The ME shall support the CALL CONTROL facility as defined in:

- TS 31.111 [15] clause 7.3.1.4.

##### 27.22.6.3.3 Test purpose

To verify that the ME checks that the number entered through the MMI is on the FDN list.

To verify that, if the MMI input does not pass the FDN check, the call shall not be set up.

To verify that, if the MMI input does pass the FDN check, the ME shall pass the dialled digits and other parameters to the UICC, using the ENVELOPE (CALL CONTROL) command.

To verify that, if the UICC responds with "allowed, no modification", the ME shall set up the call as proposed.

To verify that, if the UICC responds with "not allowed", the ME shall not set up the call.

To verify that, if the UICC responds with "allowed with modifications", the ME shall set up the call in accordance with the response from the UICC. If the modifications involve changing the dialled digits, the ME shall not re-check this modified number against the FDN list.

##### 27.22.6.3.4 Method of tests

27.22.6.3.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The elementary files are coded as SIM Application Toolkit default with the following exceptions:

The call control service is available in the USIM Service Table.

Fixed Dialling Number service is enabled.

The GERAN/UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01 ;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

The PCS 1900 parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 011;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

27.22.6.3.4.2 Procedure

Expected Sequence 3.1 (CALL CONTROL BY USIM , set up a call not in EFFDN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "4321" |  |
| 2 | ME UICC | The ME does not send the ENVELOPE (CALL CONTROL) command to the USIM. |  |
| 3 | ME USS | The ME does not set up the call. |  |

Expected Sequence 3.2 (CALL CONTROL BY USIM , set up a call in EFFDN , the USIM responds with '90 00')

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "123" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 3.2.1A or ENVELOPE CALL CONTROL 3.2.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | 90 00 |  |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "123"] |

ENVELOPE CALL CONTROL 3.2.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | Note 3 | 13 | Note 5 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |

ENVELOPE CALL CONTROL 3.2.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | Note 3 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

Expected Sequence 3.3 (CALL CONTROL BY USIM , set up a call in EFFDN, Allowed without modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "9876" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 3.3.1A or ENVELOPE CALL CONTROL 3.3.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 3.3.1 | [Call control result: "Allowed without modifications"] |
| 4 | ME USS | The ME sets up the call without modification | [Set up call to "9876"] |

ENVELOPE CALL CONTROL 3.3.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note 3 | 13 | Note 5 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |

ENVELOPE CALL CONTROL 3.3.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note 3 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 3.3.1

Logically:

Call control result Allowed, no modifications

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 00 | 00 |

Expected Sequence 3.4 (CALL CONTROL BY USIM , set up a call in EFFDN , Not Allowed)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "9876" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 3.4.1A or ENVELOPE CALL CONTROL 3.4.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 3.4.1 | [Call control result: "Not Allowed"] |
| 4 | ME USS | The ME does not set up the call |  |

ENVELOPE CALL CONTROL 3.4.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note 3 | 13 | Note 5 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |

ENVELOPE CALL CONTROL 3.4.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note 3 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 3.4.1

Logically:

Call control result Not Allowed

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 01 | 00 |

Expected Sequence 3.5 (CALL CONTROL BY USIM , set up a call in EFFDN , Allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "9876" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 3.5.1A or ENVELOPE CALL CONTROL 3.5.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 3.5.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | The ME sets up the call with data sent by the UICC | [Set up call to "3333"] |

ENVELOPE CALL CONTROL 3.5.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 6

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note3 | 13 | Note 5 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 6 | Note 4 |

ENVELOPE CALL CONTROL 3.5.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 89 | 67 | Note 2 |
|  | Note3 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 4 |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Subaddress may be present at this place. If present, it may take up several octets.

Note 4: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 5: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 6: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 3.5.1

Logically:

Call control result Allowed with modifications

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Address value "3333"

Coding:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 05 | 86 | 03 | 81 | 33 | 33 |

##### 27.22.6.3.5 Test requirement

The ME shall operate in the manner defined in expected sequences 3.1 to 3.5.

#### 27.22.6.4 Support of Barred Dialling Number (BDN) service

##### 27.22.6.4.1 Definition and applicability

Barred Dialling Numbers (BDN) is a service defined for the USIM. An enabled BDN service results in call restrictions for the ME. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of BDN the ME runs the BDN capability request procedure during UICC-Terminal initialisation. At the time an emergency call is setup using the emergency call code read from the EFECC, the Rel-4+ ME shall use the category of the emergency service indicated.

##### 27.22.6.4.2 Conformance requirement

1) Recognising the state of the USIM (BDN enabled) the ME shall perform the UICC initialisation procedure as specified.

2) The ME shall prevent call set-up to any number stored in EFBDN if BDN service is enabled.

3) The ME shall allow call set-up to any number stored in EFBDN if BDN service is disabled.

4) Any change to the EFBDN or EFEST does request PIN2.

5) The ME allows call set-up of an emergency call, even if this number is stored in the USIM.

References:

- R99: TS 22.101[22], clause 8 and A.19;

- Rel-4: TS 22.101[22], clause 9 and A.20;

- Rel-5+: TS 22.101[22], clause 10 and A.21;

- TS 31.102[14], clauses 4.2.44, 4.4.2.3, 5.1.1 and 5.3.2;

- TS 24.008[10], clause 10.5.4.33;

- TS 31.111[15], clause 7.3.1.5

##### 27.22.6.4.3 Test purpose

1) To verify that the Terminal rejects call set-up to any number that has an entry in EFBDN if BDN service is enabled.

2) To verify that the Terminal allows call set-up to any number not stored in EFBDN.

3) To verify that the Terminal allows emergency call set-up even if the number is stored in EFBDN.

4) To verify that the Rel-4+ Terminal reads correctly the emergency service category stored in EFECC.

5) To verify that, if the UICC responds with "not allowed", the ME does not set up the call.

6) To verify that, if the UICC responds with "allowed, no modification", the ME shall set up the call (or the supplementary service operation) as proposed.

7) To verify that, if the UICC responds with "allowed with modifications", the ME sets up the call in accordance with the response from the UICC. If the modifications involve changing the dialled number the ME does not re-check this modified number against the FDN list when FDN is enabled.

8) To verify that updating EF BDN or changing the status of BDN service shall be performed by the use of second application PIN only.

9) To verify that the ME allows call set up to a BDN number if BDN service is disabled.

##### 27.22.6.4.4 Method of tests

27.22.6.4.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The call control service is available in the USIM Service Table.

The elementary files are coded as USIM Application Toolkit default with the following exceptions:

Barred Dialling Number service is enabled.

Fixed Dialling Number service is disabled.

Only prior to the execution of expected sequence 4.3 the FDN service shall be enabled.

The Second Application PIN (key reference 81) shall be enabled, but not verified.

Only in expected sequence 4.2B EFECC shall be used with the following values:

EFECC (Emergency Call Codes)

Logically: Emergency call code: "122";

Emergency call code alpha identifier: "TEST";

Emergency call Service Category: "Mountain Rescue".

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding: | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 |
| Hex | 21 | F2 | FF | 54 | 45 | 53 | 54 | 10 |

The GERAN/UTRAN parameters of the system simulator are:

1. Mobile Country Code (MCC) = 001;
2. Mobile Network Code (MNC) = 01 ;
3. Location Area Code (LAC) = 0001;
4. Cell Identity value = 0001.

The PCS 1900 parameters of the system simulator are:

Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 011;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

27.22.6.4.4.2 Procedure

Expected Sequence 4.1 (CALL CONTROL BY USIM, BDN service enabled)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "+1357924680" | [Number as stored in record 1 of EF BDN] |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 4.1.1A  or  ENVELOPE CALL CONTROL 4.1.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 4.1.1 | [Call control result: "Not Allowed"] |
| 4 | ME USS | The ME does not set up the call |  |
| 5 | User  ME | The user sets up a call to the number stored in record 1 of EF ADN |  |
| 6 | ME  UICC | ENVELOPE CALL CONTROL 4.1.2A  or  ENVELOPE CALL CONTROL 4.1.2B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 7 | UICC  ME | CALL CONTROL RESULT 4.1.2 | [Call control result: "Allowed without modifications"] |
| 8 | ME USS | The ME sets up the call without modification |  |
| 9 | User  ME | The user sets up a call to "123456" |  |
| 10 | ME  UICC | ENVELOPE CALL CONTROL 4.1.3A  or  ENVELOPE CALL CONTROL 4.1.3B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 11 | UICC  ME | CALL CONTROL RESULT 4.1.2 | [Call control result: "Allowed without modifications"] |
| 12 | ME USS | The ME sets up the call without modification |  |
| 13 | User  ME | The user sets up a call to "1111" |  |
| 14 | ME  UICC | ENVELOPE CALL CONTROL 4.1.4A  or  ENVELOPE CALL CONTROL 4.1.4B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 15 | UICC  ME | CALL CONTROL RESULT 4.1.3 | [Call control result: "Allowed with modifications"] |
| 16 | ME USS | The ME sets up the call with data sent by the UICC | [Set up call to "2222"] |
| 17 | User  ME | The user shall use a MMI dependent procedure to initiate the disabling of the BDN service |  |
| 18 | ME  User | Ask for second application PIN verification |  |
| 19 | User  ME | The user shall enter the second application PIN |  |
| 20 | ME  UICC | Update EF EST to disable BDN service |  |
| 21 | UICC  ME | UICC responds with SW = "90 00" |  |
| 22 | ME  User | Indicate that the BDN service was disabled successfully |  |
| 23 | User  ME | The user uses the MMI to store the directory number "+876543210" in EFBDN as barred dialling number 1 (record 1). | [The alpha identifier is not changed.] |
| 24 | ME  UICC | Update EF BDN |  |
| 25 | UICC  ME | UICC responds with SW = "90 00" |  |
| 26 | ME  User | The user attempts to set up a call to "+876543210". |  |
| 27a | ME  UICC | No Envelope call control is sent |  |
| 27b | ME USS | The ME sets up the call without modification |  |

ENVELOPE CALL CONTROL 4.1.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON International

NPI "ISDN / telephone numbering plan"

Dialling number string "1357924680"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 06 | 91 | 31 | 75 | 29 |
|  | 64 | 08 | Note 2 | 13 | Note 4 | 00 | F1 | 10 | 00 | 01 | 00 | 01 |
|  | Note5 | Note 3 |  |  |  |  |  |  |  |  |  |  |

ENVELOPE CALL CONTROL 4.1.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON International

NPI "ISDN / telephone numbering plan"

Dialling number string "1357924680"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 06 | 91 | 31 | 75 | 29 |
|  | 64 | 08 | Note 2 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |
|  | Note 3 |  |  |  |  |  |  |  |  |  |  |  |

Note 1: Length of BER-TLV is '15' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 4: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 5: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 4.1.2A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 5

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | 13 | Note 4 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 5 | Note 3 |  |

ENVELOPE CALL CONTROL 4.1.2B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 4: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 5: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 4.1.3A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 5

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 04 | 81 | 21 | 43 | 65 |
|  | Note 2 | 13 | Note 4 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 5 | Note 3 |

ENVELOPE CALL CONTROL 4.1.3B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123456"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 04 | 81 | 21 | 43 | 65 |
|  | Note 2 | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |

Note 1: Length of BER-TLV is '13' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 4: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'.

Note 5: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

ENVELOPE CALL CONTROL 4.1.4A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "1111"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 5

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 11 | 11 | Note 2 |
|  | 13 | Note 4 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 5 | Note 3 |  |

ENVELOPE CALL CONTROL 4.1.4B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "1111"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 11 | 11 | Note 2 |
|  | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 4: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 5: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 4.1.1

Logically:

Call control result Not Allowed

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 01 | 00 |

CALL CONTROL RESULT 4.1.2

Logically:

Call control result Allowed, no modifications

Coding:

|  |  |  |
| --- | --- | --- |
| BER-TLV: | 00 | 00 |

CALL CONTROL RESULT 4.1.3

Logically:

Call control result Allowed with modifications

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Address value "2222"

Coding:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 05 | 86 | 03 | 81 | 22 | 22 |

Expected Sequence 4.2A (CALL CONTROL BY USIM, BDN service enabled, interaction with emergency call codes, R99 only)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up an emergency call to an emergency number stored in the terminal. | The used emergency number shall be one of the emergency call codes, which are available when a SIM/USIM is present, according to TS 22.101[22], clause 8 is used (i.e. "112", or "911"). |
| 2a | ME  UICC | No Envelope call control is sent |  |
| 2b | ME  USS | The ME shall allow an emergency call by indicating the call setup as "Emergency Call". |  |
| 3 | User  ME | End the emergency call. |  |

Expected Sequence 4.2B (CALL CONTROL BY USIM, BDN service enabled, interaction with emergency call codes, Rel-4+)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up an emergency call to an emergency number stored in the terminal. | The used emergency number shall be one of the emergency call codes, which are available when a SIM/USIM is present, according to TS 22.101[22], clause 9 (Rel-4) or 10 (Rel-5+) is used (i.e. "112", or "911"). |
| 2a | ME  UICC | No Envelope call control is sent |  |
| 2b | ME  USS | The ME shall allow an emergency call by indicating the call setup as "Emergency Call". |  |
| 3 | User  ME | End the emergency call. |  |
| 4 | User  ME | The user sets up an emergency call to an emergency number stored in the USIM. |  |
| 5a | ME  UICC | No Envelope call control is sent |  |
| 5b | ME  USS | The ME shall allow an emergency call by sending the emergency service category correctly as "Mountain Rescue". |  |
| 6 | User  ME | End the emergency call. |  |

Expected Sequence 4.3 (CALL CONTROL BY USIM , FDN and BDN enabled, set up a call in EFFDN, Allowed with modifications)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "123" |  |
| 2 | ME  UICC | ENVELOPE CALL CONTROL 4.3.1A  or  ENVELOPE CALL CONTROL 4.3.1B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] |
| 3 | UICC  ME | CALL CONTROL RESULT 4.3.1 | [Call control result: "Allowed with modifications"] |
| 4 | ME USS | The ME sets up the call with data sent by the UICC | [Set up call to "24680"the ME does not re-check this modified number against the FDN list] |

ENVELOPE CALL CONTROL 4.3.1A

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 5

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | 13 | Note 4 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 5 | Note 3 |  |

ENVELOPE CALL CONTROL 4.3.1B

Logically:

Device identities

Source device: ME

Destination device: UICC

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "123"

Capability configuration parameters 1

This parameter is optional. If present, the contents shall not be checked.

Subaddress

This parameter is optional. If present, the contents shall not be checked.

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Capability configuration parameters 2

This parameter is optional. If present, the contents shall not be checked.

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D4 | Note 1 | 82 | 02 | 82 | 81 | 86 | 03 | 81 | 21 | F3 | Note 2 |
|  | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |

Note 1: Length of BER-TLV is '12' plus the actual length of all the present optional SIMPLE-TLV data objects.

Note 2: Capability configuration parameters 1 may be present at this place. If present, it may take up several octets.

Note 3: Capability configuration parameters 2 may be present at this place. If present, it may take up several octets.

Note 4: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 5: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified.

CALL CONTROL RESULT 4.3.1

Logically:

Call control result Allowed with modifications

Address

TON Unknown

NPI "ISDN / telephone numbering plan"

Address value "24680"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 02 | 06 | 86 | 04 | 81 | 42 | 86 | F0 |  |  |

##### 27.22.6.4.5 Test requirement

The ME shall operate in the manner defined in expected sequences 4.1 to 4.3.

#### 27.22.6.5 Barred Dialling Number (BDN) service handling for terminals not supporting BDN

##### 27.22.6.5.1 Definition and applicability

Barred Dialling Numbers (BDN) is a service defined for the USIM. An enabled BDN service results in call restrictions for the ME. The call restrictions are controlled by the Terminal. If BDN is enabled, an ME which does not support Call Control shall allow emergency calls but shall not allow MO-CS calls.

##### 27.22.6.5.2 Conformance requirement

1) Recognising the state of the USIM (BDN enabled) the ME shall perform the UICC initialisation procedure as specified.

2) The ME shall prevent MO-CS call set-up to any number except to emergency call numbers if the BDN service is enabled.

References:

- Rel-5+: TS 22.101[22], clause 10 and A.21;

TS 31.102[14], clauses 4.2.44, 4.4.2.3, 5.1.1.2 and 5.3.2;

TS 31.111[15], clause 7.3.1.5

##### 27.22.6.5.3 Test purpose

1) To verify that the Terminal rejects MO-CS call set-up to any number except to emergency call numbers if BDN service is enabled.

2) To verify that the Terminal allows emergency call set-up even if the BDN service is enabled.

##### 27.22.6.5.4 Method of tests

27.22.6.5.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The call control service is available in the USIM Service Table.

The elementary files are coded as USIM Application Toolkit default with the following exceptions:

Barred Dialling Number service is enabled.

27.22.6.5.4.2 Procedure

Expected Sequence 5.1 (CALL CONTROL BY USIM, BDN service enabled, ME not supporting BDN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | User  ME | The user sets up a call to "+1357924680" | [Number as stored in record 1 of EF BDN] |
| 2a | ME  UICC | No ENVELOPE CALL CONTROL is sent |  |
| 2b | ME USS | The ME does not set up the call |  |
| 3 | User  ME | The user sets up a call to the number stored in record 1 of EF ADN |  |
| 4a | ME  UICC | No ENVELOPE CALL CONTROL is sent |  |
| 4b | ME USS | The ME does not set up the call |  |
| 5 | User  ME | The user sets up an emergency call to "112" |  |
| 6a | ME  UICC | No ENVELOPE CALL CONTROL is sent |  |
| 6b | ME USS | The ME sets up the emergency call to "112" |  |
| 7 | User  ME | The user shall terminate the emergency call after 5 seconds. The ME returns to idle mode. |  |

##### 27.22.6.5.5 Test requirement

The ME shall operate in the manner defined in expected sequences 5.1.

### 27.22.7 EVENT DOWNLOAD

#### 27.22.7.1 MT Call Event

##### 27.22.7.1.1 MT Call Event (normal)

27.22.7.1.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.1.1.2 Conformance requirement

The ME shall support the EVENT: MT Call event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, and clause 8.25.

27.22.7.1.1.3 Test purpose

To verify that the ME informs the UICC that an Event: MT Call has occurred using the ENVELOPE (EVENT DOWNLOAD - MT Call) command.

27.22.7.1.1.4 Method of test

27.22.7.1.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.1.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD -MT Call event)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | USS  ME | CALL SET UP without CLI | [MT Call Set Up Without CLI] |
| 6 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - MT Call 1.1.1 |  |
| 7 | USS  ME | CALL DISCONNECT |  |
| 8 | USS  ME | CALL SET UP with CLI | [MT Call Set Up With CLI] |
| 9 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - MT Call 1.1.2 |  |
| 10 | USS  ME | CALL DISCONNECT |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: MT call

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 00 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - MT CALL 1.1.1

Logically:

Event list: MT call event

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 00 | 82 | 02 | 83 | 81 | 1C | 01 | 00 |

EVENT DOWNLOAD - MT CALL 1.1.2

Logically:

Event list: MT call event

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Address:

TON Unknown

NPI "ISDN / telephone numbering plan"

Dialling number string "9876"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0F | 19 | 01 | 00 | 82 | 02 | 83 | 81 | 1C | 01 | 00 |
|  | 86 | 03 | 81 | 89 | 67 |  |  |  |  |  |  |  |

27.22.7.1.1.5 Test requirement

The behaviour of the test is as defined in 'Expected Sequence 1.1'.

#### 27.22.7.2 Call Connected Event

##### 27.22.7.2.1 Call Connected Event (MT and MO call)

27.22.7.2.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.2.1.2 Conformance requirement

The ME shall support the EVENT: Call Connected event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, clause 8.25 and clause 8.28.

27.22.7.2.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Call Connected has occurred using the ENVELOPE (EVENT DOWNLOAD -Call Connected) command.

To verify that the ME provides the correct value of the Transaction identifier to the UICC in the Call Connected Event.

27.22.7.2.1.4 Method of test

27.22.7.2.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.2.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD -CALL CONNECTED)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | [EVENT: Call Connected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | USS  ME | SETUP | [MT Call] TI = 0 |
| 6 | USER  ME | Accept Call Set Up |  |
| 7 | MEUSS | CONNECT |  |
| 8 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.1.1 |  |
| 9 | USS  ME | DISCONNECT |  |
| 10 | USER  ME | Initiate Call to "123" |  |
| 11 | ME  USS | SETUP | [MO Call] TI = 0 |
| 12 | USS  ME | CONNECT |  |
| 13 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.1.2 |  |
| 14 | USER  ME | End Call |  |
| 15 | ME  USS | DISCONNECT |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Connected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 01 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL CONNECTED 1.1.1

Logically:

Event list: Call connected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |

EVENT DOWNLOAD - CALL CONNECTED 1.1.2

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 80 |

Expected Sequence 1.2 (EVENT DOWNLOAD -CALL CONNECTED, simultaneous calls, MT call followed by MO call)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.2.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 | [EVENT: Call Connected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 |  |
| 5 | USS  ME | SETUP | [MT Call] TI = 0 |
| 6 | USER  ME | Accept Call Set Up |  |
| 7 | MEUSS | CONNECT |  |
| 8 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.2.1 |  |
| 9 | USER  ME | Initiate Call to "123" |  |
| 10 | ME  USS | SETUP | [MO Call] TI = 1 |
| 11 | USS  ME | CONNECT |  |
| 12 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.2.2 |  |
| 13 | USER  ME | End Call "123" |  |
| 14 | ME  USS | DISCONNECT Call "123" | [MO Call] TI = 1 |
| 15 | USS  ME | DISCONNECT MT Call | [MT Call] TI = 0 |

PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Connected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 01 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL CONNECTED 1.2.1

Logically:

Event list: Call connected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |

EVENT DOWNLOAD - CALL CONNECTED 1.2.2

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 1 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 90 |

Expected Sequence 1.3 (EVENT DOWNLOAD -CALL CONNECTED, simultaneous calls, MO call followed by MO call)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.3.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.3.1 | [EVENT: Call Connected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.3.1 |  |
| 5 | USER  ME | Initiate Call to "123" |  |
| 6 | ME  USS | SETUP | [MO Call] TI = 0 |
| 7 | USS ME | CONNECT |  |
| 8 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.3.1 |  |
| 9 | USER  ME | Initiate Call to "456" |  |
| 10 | ME  USS | SETUP | [MO Call] TI = 1 |
| 11 | USS  ME | CONNECT |  |
| 12 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.3.2 |  |
| 13 | USER  ME | End Call "456" |  |
| 14 | ME  USS | DISCONNECT Call "456" | [MO Call] TI = 1 |
| 15 | USS  ME | DISCONNECT Call "123" | [MO Call] TI = 0 |

PROACTIVE COMMAND: SET UP EVENT LIST 1.3.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Connected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 01 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.3.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL CONNECTED 1.3.1

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 80 |

EVENT DOWNLOAD - CALL CONNECTED 1.3.2

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 1 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 90 |

Expected Sequence 1.4 (EVENT DOWNLOAD -CALL CONNECTED, simultaneous calls, MO call followed by MT call)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.4.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.4.1 | [EVENT: Call Connected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.3.1 |  |
| 5 | USER  ME | Initiate Call to "123" |  |
| 6 | ME  USS | SETUP | [MO Call] TI = 0 |
| 7 | USS ME | CONNECT |  |
| 8 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.4.1 |  |
| 9 | USS  ME | SETUP | [MT Call] TI = 0 |
| 10 | USER  ME | Accept Call Set Up |  |
| 11 | MEUSS | CONNECT |  |
| 12 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Call Connected 1.4.2 |  |
| 13 | ME  USS | DISCONNECT MT Call | [MO Call] TI = 0 |
| 14 | USS  ME | DISCONNECT MO Call | [MO Call] TI = 0 |

PROACTIVE COMMAND: SET UP EVENT LIST 1.4.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Connected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 01 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.4.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL CONNECTED 1.4.1

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 80 |

EVENT DOWNLOAD - CALL CONNECTED 1.4.2

Logically:

Event list: Call connected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |

27.22.7.2.1.5 Test requirement

The behaviour of the test is as defined in Expected Sequences 1.1 to 1.4.

##### 27.22.7.2.2 Call Connected Event (ME supporting SET UP CALL)

27.22.7.2.2.1 Definition and applicability

See clause 3.2.2.

27.22.7.2.2.2 Conformance requirement

Additionally the ME shall support the SET UP CALL Proactive UICC Command as defined in:

- TS 31.111 [15] clause 7.5, clause 6.4.13 and clause 6.6.12.

27.22.7.2.2.3 Test purpose

To verify that the ME informs the UICC that an Event: Call Connected has occurred using the ENVELOPE (EVENT DOWNLOAD -Call Connected) command.

27.22.7.2.2.4 Method of test

27.22.7.2.2.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.2.2.4.2 Procedure

Expected Sequence 2.1 (EVENT DOWNLOAD -CALL CONNECTED, ME supporting SET UP CALL)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 2.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 2.1.1 | [EVENT: Call Connected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 2.1.1 |  |
| 5 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP CALL 2.1.1 |  |
| 6 | ME  UICC | FETCH |  |
| 7 | UICC  ME | PROACTIVE COMMAND: SET UP CALL 2.1.1 | [SAT Call] |
| 8 | ME USER | ME displays "+012340123456" during the user confirmation phase. | ME BEHAVIOUR: SET UP CALL |
| 9 | USER  ME | Confirm call set up |  |
| 10 | ME  USS | SETUP | TI=0 |
| 11 | USS  ME | CONNECT |  |
| 12 | ME  UICC | TERMINAL RESPONSE: SET UP CALL 2.1.1 |  |
| 13 | ME  UICC | ENVELOPE: CALL CONNECTED 2.1.1 |  |

PROACTIVE COMMAND: SET UP EVENT LIST 2.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Connected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 01 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 2.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

PROACTIVE COMMAND: SET UP CALL 2.1.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: UICC

Destination device: Network

Alpha identifier: "+012340123456"

Address

TON: International

NPI: "ISDN / telephone numbering plan"

Dialling number string "012340123456"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 21 | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 81 | 83 |
|  | 05 | 0D | 2B | 30 | 31 | 32 | 33 | 34 | 30 | 31 | 32 |
|  | 33 | 34 | 35 | 36 | 86 | 07 | 91 | 10 | 32 | 04 | 21 |
|  | 43 | 65 |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP CALL 2.1.1

Logically:

Command details

Command number: 1

Command type: SET UP CALL

Command qualifier: Only if not currently busy on another call

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 10 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL CONNECTED 2.1.1

Logically:

Event list: Call connected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 01 | 82 | 02 | 83 | 81 | 1C | 01 | 80 |

27.22.7.2.2.5 Test requirement

The behaviour of the test is as defined in 'Expected Sequence 2.1'.

#### 27.22.7.3 Call Disconnected Event

##### 27.22.7.3.1 Call Disconnected Event

27.22.7.3.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.3.1.2 Conformance requirement

The ME shall support the EVENT: Call Disconnected event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, and clause 8.25.

27.22.7.3.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Call Disconnected has occurred using the ENVELOPE (EVENT DOWNLOAD -Call Disconnected) command.

27.22.7.3.1.4 Method of test

27.22.7.3.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.3.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD -CALL DISCONNECTED)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | [EVENT: Call Disconnected active] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | USS  ME | SETUP | [ incoming call ] TI=0 |
| 6 | USER  ME | Accept Call Set Up |  |
| 7 | USS  ME | RELEASE | [MT RELEASE] |
| 8 | ME UICC | ENVELOPE: CALL DISCONNECTED 1.1.1 |  |
| 9 | USS  ME | SETUP | [ incoming call ] TI=0 |
| 10 | USER  ME | Accept Call Set Up |  |
| 11 | USS  ME | RELEASE COMPLETE | [MT RELEASE COMPLETE] |
| 12 | ME UICC | ENVELOPE: CALL DISCONNECTED 1.1.1 |  |
| 13 | USS  ME | SETUP | [ incoming call ] TI=0 |
| 14 | USER  ME | Accept Call Set Up |  |
| 15 | USER  ME | End Call |  |
| 16 | ME  USS | DISCONNECT | [MO DISCONNECT] |
| 17 | ME  UICC | ENVELOPE: CALL DISCONNECTED 1.1.2A or ENVELOPE: CALL DISCONNECTED 1.1.2B or ENVELOPE: CALL DISCONNECTED 1.1.2C |  |
| 18 | USS  ME | SETUP | [ incoming call ] TI=0 |
| 19 | USER  ME | Accept Call Set Up |  |
| 20 | USS  ME | DISCONNECT | [MT DISCONNECT + CAUSE: normal call clearing ] |
| 21 | ME UICC | ENVELOPE: CALL DISCONNECTED 1.1.3A or ENVELOPE: CALL DISCONNECTED 1.1.3B |  |
| 22 | USS  ME | SETUP | TI=0 |
| 23 | USER  ME | Accept Call Set Up |  |
| 24 | USS | TX POWER to XX | [RADIO LINK FAILURE] |
| 25 | ME UICC | ENVELOPE: CALL DISCONNECTED 1.1.4A or 1.1.4B |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Call Disconnected

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 02 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.1

Logically:

Event list: Call Disconnected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Cause:

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 02 | 82 | 02 | 83 | 81 | 1C | 01 | 00 |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.2A

Logically:

Event list: Call Disconnected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 02 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.2B

Logically:

Event list: Call Disconnected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Cause: normal call clearing

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 19 | 01 | 02 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |
|  | 9A | 02 | 60 | 90 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.2C

Logically:

Event list: Call Disconnected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Cause: normal call clearing

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 19 | 01 | 02 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |
|  | 9A | 02 | E0 | 90 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.3A

Logically:

Event list: Call Disconnected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Cause: normal call clearing

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 19 | 01 | 02 | 82 | 02 | 83 | 81 | 1C | 01 | 00 |
|  | 9A | 02 | 60 | 90 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.3B

Logically:

Event list: Call Disconnected

Device identities

Source device: Network

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Cause: normal call clearing

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 19 | 01 | 02 | 82 | 02 | 83 | 81 | 1C | 01 | 00 |
|  | 9A | 02 | E0 | 90 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.4A

Logically:

Event list: Call Disconnected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 1 (bit 8)

Cause: radio link failure

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0C | 19 | 01 | 02 | 82 | 02 | 82 | 81 | 1C | 01 | 80 |
|  | 9A | 00 |  |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - CALL DISCONNECTED 1.1.4B

Logically:

Event list: Call Disconnected

Device identities

Source device: ME

Destination device: UICC

Transaction identifier:

TI value: 0 (bit 5-7) - If A.1/150 is supported, this shall not be verified

TI flag: 0 (bit 8)

Cause: radio link failure

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0C | 19 | 01 | 02 | 82 | 02 | 82 | 81 | 1C | 01 | 00 |
|  | 9A | 00 |  |  |  |  |  |  |  |  |  |  |

27.22.7.3.1.5 Test requirement

The behaviour of the test is as defined in 'Expected Sequence 1.1'.

#### 27.22.7.4 Location Status Event

##### 27.22.7.4.1 Location Status Event (normal)

27.22.7.4.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.4.1.2 Conformance requirement

The ME shall support the EVENT: Location Status event as defined in:

- TS 31.111 [15] clause 5.2, 7.5 and clause 6.4.16

and

- UTRAN/GERAN for sequence 1.1;

- E-UTRAN (WB-S1 mode or NB-S1 mode) for sequence 1.2;

- NG-RAN for sequence 1.3.

27.22.7.4.1.3 Test purpose

To verify that the ME informs the UICC that an Event: MM\_IDLE state has occurred using the ENVELOPE (EVENT DOWNLOAD - Location Status) command.

To verify that the ME supporting E-UTRAN/EPC informs the UICC that an Event: EMM\_IDLE state has occurred using the ENVELOPE (EVENT DOWNLOAD - Location Status) command.

To verify that the ME supporting E-UTRAN/EPC correctly encodes the E-UTRAN Cell Id in the ENVELOPE (EVENT DOWNLOAD - Location Status) command.

To verify that the ME supporting NG-RAN informs the UICC that an Event: 5GMM\_IDLE state has occurred using the ENVELOPE (EVENT DOWNLOAD - Location Status) command.

To verify that the ME supporting NG-RAN correctly encodes the 5G Cell Id in the ENVELOPE (EVENT DOWNLOAD - Location Status) command.

27.22.7.4.1.4 Method of test

27.22.7.4.1.4.1 Initial conditions

For sequence 1.1 the ME is connected to the USIM Simulator and the USS.

The elementary files are coded as the USIM Application Toolkit default.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The GERAN/UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001;

The PCS 1900 parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 011;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001.

Two cells are defined. Cell 1 has location area code 1 and cell 2 has location area code 2.

MS is in service on Cell 1.

For sequence 1.2 the ME is connected to the USIM Simulator and the E-USS/NB-SS.

The default E-UTRAN/EPC UICC is used.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The E-UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

For cell 1:

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Id = 0001 (28 bits);

For cell 2:

- Tracking Area Code (TAC) = 0002;

- E-UTRAN Cell Id = 0002 (28 bits).

The NB-IoT parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

For cell 1:

- Tracking Area Code (TAC) = 0001;

- NB-IoT Cell Id = 0001 (28 bits);

For cell 2:

- Tracking Area Code (TAC) = 0002;

- NB-IoT Cell Id = 0002 (28 bits).

For sequence 1.3 the ME is connected to the USIM Simulator and the NG-SS.

The default NG-RAN UICC is used.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

If programmable USIM with test applet is used (as defined in clause 27.0), UICC shall register for Location Status Event using the proactive command SET UP EVENT LIST with Location Status event in the event list (ref to 102.241 cl 6.7.1.2).

The NG-SS transmits on the BCCH, with the following network parameters:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

For cell 1:

- Tracking Area Code (TAC) = 000001;

- NG-RAN Cell Id = 0001 (36 bits);

For cell 2:

- Tracking Area Code (TAC) = 000002;

- NG-RAN Cell Id = 0002 (36 bits);

27.22.7.4.1.4.2 Procedure

Expected Sequence 1.1(EVENT DOWNLOAD -LOCATION STATUS)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4a | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 4b | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.1.1A [applies for GERAN/UTRAN parameters]  or  ENVELOPE: EVENT DOWNLOAD - Location Status 1.1.1B [applies for PCS1900 parameters] | This step applies only if A.1/171 |
| 5 | USS | Cell 1 is switched off |  |
| 6 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.1.1 |  |
| 7 | USS | Cell 2 is switched on after Location Status "No service" has been received in step 6 |  |
| 8 | ME | ME performs cell reselection to cell 2 |  |
| 9 | ME  USS | LOCATION UPDATING REQUEST or ROUTING AREA UPDATE REQUEST | The ME is CS and/or PS registered depending on its capabilities |
| 10 | USS  ME | LOCATION UPDATING ACCEPT or ROUTING AREA UPDATE ACCEPT |  |
| 11 | ME  USS | TMSI REALLOCATION COMPLETE or ROUTING AREA UPDATE COMPLETE |  |
| 12 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.1.2A or ENVELOPE: EVENT DOWNLOAD - Location Status 1.1.2B | [Option A shall apply for GERAN/UTRAN parameters] [Option B shall apply for PCS1900 parameters] [Note: The inclusion of the location information is optional: (If location status indicates normal status) |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Location status

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 03 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - LOCATION STATUS 1.1.1

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: No service

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 02 |

EVENT DOWNLOAD - LOCATION STATUS 1.1.1A

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | Note 2 | 00 | F1 | 10 | 00 | 01 | 00 | 01 | Note 3 |  |  |

Note 1: Depending on the presence of the Extended Cell Identity Value the length is '13' or '15'

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

EVENT DOWNLOAD - LOCATION STATUS 1.1.1B

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0001)

Cell ID Cell Identity Value (0001)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 13 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 07 | 00 | 11 | 10 | 00 | 01 | 00 | 01 |  |  |  |

EVENT DOWNLOAD - LOCATION STATUS 1.1.2A

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

LAC the location Area Code (0002)

Cell ID Cell Identity Value (0002)

Extended Cell ID RNC-id value (for Rel-4 onwards), see also Note 3

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | Note 2 | 00 | F1 | 10 | 00 | 02 | 00 | 02 | Note 3 |  |  |

Note 1: Depending on the presence of the Extended Cell Identity Value the length is '13' or '15'

Note 2: Depending on the presence of the Extended Cell Identity Value the length is '07' or '09'

Note 3: The Extended Cell Identity Value is present in Rel-4 and onwards implementations, the values of the two bytes shall not be verified

EVENT DOWNLOAD - LOCATION STATUS 1.1.2B

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (001110)

LAC the location Area Code (0002)

Cell ID Cell Identity Value (0002)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 13 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 07 | 00 | 11 | 10 | 00 | 02 | 00 | 02 |  |  |  |

Expected Sequence 1.2 (EVENT DOWNLOAD -LOCATION STATUS, E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | ME | The ME is registered to cell one and in EMM\_IDLE |  |
| 2 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 3 | ME  UICC | FETCH |  |
| 4 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 5a | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5b | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.2.1A | This step applies only if A.1/171 |
| 6 | E-USS/NB-SS | Cell 1 is switched off |  |
| 7 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.2.1 |  |
| 8 | E-USS/NB-SS | Cell 2 is switched on after Location Status "No service" has been received in step 7 |  |
| 9 | ME | ME performs cell reselection to cell 2 |  |
| 10 | ME  E-USS/NB-SS | ME performs EPS ATTACH or TRACKING AREA UPDATE procedure | [E-UTRAN/NB-IoT cell 2 accepts] |
| 11 | ME | ME reaches EMM\_IDLE state |  |
| 12 | ME  UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.2.2 |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Same as PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 in sequence 1.1

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Same as Terminal Response: SET UP EVENT LIST 1.1.1 in sequence 1.1

EVENT DOWNLOAD - LOCATION STATUS 1.2.1

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: No service

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 02 |

EVENT DOWNLOAD - LOCATION STATUS 1.2.1A

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

TAC 0001

E-UTRAN cell id: 0001 (28bits)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 15 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 09 | 00 | F1 | 10 | 00 | 01 | 00 | 00 | 00 | 1F |  |

EVENT DOWNLOAD - LOCATION STATUS 1.2.2

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

TAC 0002

E-UTRAN cell id: 0002 (28bits)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 15 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 09 | 00 | F1 | 10 | 00 | 02 | 00 | 00 | 00 | 2F |  |

Expected Sequence 1.3 (EVENT DOWNLOAD -LOCATION STATUS, NG-RAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | ME | The ME is registered to cell 1 and in 5GMM\_IDLE. |  |
| 2 | UICC 🡪ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 3 | ME 🡪UICC | FETCH |  |
| 4 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 5a | ME 🡪UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | If programmable USIM with test applet is used (as defined in clause 27.0),  the TERMINAL RESPONSE cannot be verified and that the Event has been registered in the device is implicitly verified at ste step 5b (ENVELOPE: EVENT DOWNLOAD - Location Status 1.3.1A) and/or step 7 (ENVELOPE: EVENT DOWNLOAD - Location Status 1.3.1). |
| 5b | ME 🡪UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.3.1A | This step applies only if A.1/171 |
| 6 | NG-SS | Cell 1 is switched off. |  |
| 7 | ME 🡪UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.3.1 |  |
| 8 | NG-SS | Cell 2 is switched on after Location Status "No service" has been received in step 7. |  |
| 9 | ME | ME performs cell reselection to cell 2. |  |
| 10 | ME 🡪NG-SS | ME performs 5GS registration with 5GS registration type IE set to "initial registration" or "mobility registration updating". | [NG-SS cell 2 accepts] |
| 11 | ME | ME reaches 5GMM\_IDLE state. |  |
| 12 | ME 🡪UICC | ENVELOPE: EVENT DOWNLOAD - Location Status 1.3.2 |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Same as PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 in sequence 1.1

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Same as Terminal Response: SET UP EVENT LIST 1.1.1 in sequence 1.1

EVENT DOWNLOAD - LOCATION STATUS 1.3.1

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: No service

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 02 |

EVENT DOWNLOAD - LOCATION STATUS 1.3.1A

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

TAC 000001

NG-SS cell id: 0001 (36bits)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 03 | 82 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 0B | 00 | F1 | 10 | 00 | 00 | 01 | 00 | 00 | 00 | 00 |
|  | 1F |  |  |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - LOCATION STATUS 1.3.2

Logically:

Event list: Location status

Device identities

Source device: ME

Destination device: UICC

Location status: normal service

Location Information

MCC & MNC the mobile country and network code (00F110)

TAC 000002

NG-SS cell id: 0002 (36bits)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 03 | 02 | 02 | 82 | 81 | 1B | 01 | 00 |
|  | 13 | 0B | 00 | F1 | 10 | 00 | 00 | 02 | 00 | 00 | 00 | 00 |
|  | 2F |  |  |  |  |  |  |  |  |  |  |  |

27.22.7.4.1.5 Test requirement

The behaviour of the test shall be as defined in expected sequences 1.1 to 1.3.

#### 27.22.7.5 User Activity Event

##### 27.22.7.5.1 User Activity Event (normal)

27.22.7.5.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.5.1.2 Conformance Requirement

The ME shall support the EVENT DOWNLOAD -USER ACTIVITY as defined in:

- TS 31.111 [15] clause 5.2, clause 6.4.16, clause 6.8, clause 6.6.16, clause 6.11, clause 7.5, clause 8.6 and clause 8.25.

27.22.7.5.1.3 Test purpose

To verify that the ME performed correctly the procedure of USER ACTIVITY EVENT.

27.22.7.5.1.4 Method of Test

27.22.7.5.1.4.1 Initial conditions

The ME is connected to the USIM Simulator.

The elementary files are coded as Toolkit default.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The ME screen shall be in its normal stand-by display.

27.22.7.5.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD -USER ACTIVITY)

See ETSI TS 102 384 [26] in clause 27.22.7.5.1.4.2, Expected Sequence 1.1.

27.22.7.5.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.6 Idle screen available event

##### 27.22.7.6.1 Idle Screen Available (normal)

27.22.7.6.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.6.1.2 Conformance requirement

The ME shall support the EVENT: IDLE SCREEN AVAILABLE event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, and clause 8.25.

27.22.7.6.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Idle Screen Available has occurred using the ENVELOPE (EVENT DOWNLOAD - IDLE SCREEN AVAILABLE) command.

27.22.7.6.1.4 Method of test

27.22.7.6.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The elementary files are coded as USIM Application Toolkit default.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure and be in updated idle mode on the USS.

27.22.7.6.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD - IDLE SCREEN AVAILABLE)

See ETSI TS 102 384 [26] in clause 27.22.7.6.1.4.2, Expected Sequence 1.1.

27.22.7.6.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.7 Card reader status event

##### 27.22.7.7.1 Card Reader Status (normal)

27.22.7.7.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.7.1.2 Conformance requirement

The ME shall support the EVENT: Call Card Reader Status event as defined in:

- TS 31.111 [15] clause 4.7, clause 4.9, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, clause 8.25, clause 8.33, annex F, annex G, clause 8.25 and clause 8.7.

27.22.7.7.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Card Reader Status has changed using the ENVELOPE (EVENT DOWNLOAD - Card Reader Status) command.

The ME-Manufacturer can assign the card reader identifier from 0 to 7.

This test applies for MEs with only one additional card reader.

In this particular case the card reader identifier 1 is chosen.

27.22.7.7.1.4 Method of test

27.22.7.7.1.4.1 Initial conditions

The ME is connected to the USIM Simulator.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.7.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD, Card reader status, Card reader 1, card reader attached, no card inserted)

See ETSI TS 102 384 [26] in clause 27.22.7.7.1.4.2, Expected Sequence 1.1.

27.22.7.7.1.5 Test requirement

The behaviour of the test is as defined in expected Sequence 1.1.

##### 27.22.7.7.2 Card Reader Status(detachable card reader)

27.22.7.7.2.1 Definition and applicability

See clause 3.2.2.

27.22.7.7.2.2 Conformance requirement

The ME shall support the EVENT: Call Card Reader Status event as defined in:

- TS 31.111 [15] clause 4.7, clause 4.9, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, clause 8.25, clause 8.33, annex F, annex G, clause 8.25 and clause 8.7.

27.22.7.7.2.3 Test purpose

To verify that the ME informs the UICC that an Event: Card Reader Status has changed using the ENVELOPE (EVENT DOWNLOAD - Card Reader Status) command.

The ME-Manufacturer can assign the card reader identifier from 0 to 7.

This test applies for MEs with only one additional card reader.

In this particular case the card reader identifier 1 is chosen as an example.

27.22.7.7.2.4 Method of test

27.22.7.7.2.4.1 Initial conditions

The ME is connected to the USIM Simulator.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

27.22.7.7.2.4.2 Procedure

Expected Sequence 2.1 (EVENT DOWNLOAD, Detachable reader, Card reader 1, detachable card reader not attached, no card inserted)

See ETSI TS 102 384 [26] in clause 27.22.7.7.2.4.2, Expected Sequence 2.1.

27.22.7.7.2.5 Test requirement

The behaviour of the test is as defined in expected Sequence 2.1.

#### 27.22.7.8 Language selection event

##### 27.22.7.8.1 Language selection event (normal)

27.22.7.8.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.8.1.2 Conformance requirement

The ME shall support the EVENT: LANGUAGE SELECTION event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, and clause 8.25.

27.22.7.8.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Language selection has occurred using the ENVELOPE (EVENT DOWNLOAD - LANGUAGE SELECTION ) command.

27.22.7.8.1.4 Method of test

27.22.7.8.1.4.1 Initial conditions

The ME is connected to the USIM Simulator.

The elementary files are coded as USIM Application Toolkit default.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The current language shall have been set to English. Another language has to be supported, German is an example.

27.22.7.8.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD - LANGUAGE SELECTION)

See ETSI TS 102 384 [26] in clause 27.22.7.8.1.4.2, Expected Sequence 1.1.

27.22.7.8.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.9 Browser termination event

##### 27.22.7.9.1 Browser termination (normal)

27.22.7.9.1.1 Definition and applicability

This test is only applicable to ME's that support the EVENT: browser termination event driven information.

27.22.7.9.1.2 Conformance requirement

The ME shall support the EVENT: Browser termination event as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, , clause 8.25, clause 8.51, annex F and clause 8.7.

27.22.7.9.1.3 Test purpose

To verify that the ME informs the UICC of an Event: Browser termination using the ENVELOPE (EVENT DOWNLOAD - Browser Termination) command.

This test applies for MEs which have a browser.

27.22.7.9.1.4 Method of test

27.22.7.9.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

A valid access to a Wap gateway is required. The default browser parameters (IP address, gateway/proxy identity, called number…) of the tested mobile shall be properly filled to access that gateway.

The Bearer Parameters defined in 27.22.4.26.1.4.1 shall be used.

27.22.7.9.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD - Browser termination)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 PENDING |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | [EVENT: Browser termination Status] |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | [Successfully] |
| 5 | UserME | Launch the browser with the URL selected by the user |  |
| 6 | MEUSS | The ME attempts to launch the session with the default browser parameters and the URL selected by the user. |  |
| 7 | UserME | Stop the session and the browser. |  |
| 8 | ME UICC | ENVELOPE: BROWSER TERMINATION 1.1.1 |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Browser termination

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 |
|  | 99 | 01 | 08 |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

ENVELOPE: EVENT DOWNLOAD BROWSER TERMINATION 1.1.1

Logically:

Event list

Event 1: Browser termination

Device identities

Source device: ME

Destination device: UICC

Browser termination cause: User termination

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 99 | 01 | 08 | 82 | 02 | 82 | 81 | B4 | 01 | 00 |

27.22.7.9.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.10 Data available event

##### 27.22.7.10.1 Definition and applicability

See clause 3.2.2.

##### 27.22.7.10.2 Conformance requirements

The ME shall support the class "e" commands as defined in:

- TS 31.111 [15].

Additionally the ME shall support ENVELOPE (EVENT DOWNLOAD - Data available).

If the ME supports option A.1/182, and if the UICC supports the UICC suspension mechanism (SUSPEND UICC command), the ME may suspend the UICC after entering the PSM. In this case, the ME shall successfully resume the UICC before it can leave the PSM. Furthermore, the terminal shall maintain the logical status as before the suspension and it shall resume the UICC for any event for which it had previously registered: this includes events registered with SET UP EVENT LIST proactive command, as specified in ETSI TS 102 221 clause 14.5.6

If the ME supports option A.1/182 and/or A.1/181, if the UE is in PSM and in case the ME wants to deactivate the UICC, it shall wait until the current proactive UICC session, if any, is terminated.

If the ME supports option A.1/183, and in case the UICC supports the UICC suspension mechanism (SUSPEND UICC command), the ME may suspend the UICC during the extended idle mode DRX cycle. In this case, the ME shall resume the UICC successfully before the end of the extended idle mode DRX cycle or before any other transmission to the network. Furthermore, the terminal shall maintain the logical status as before the suspension and it shall resume the UICC for any event for which it had previously registered: this includes events registered with SET UP EVENT LIST proactive command, as specified in ETSI TS 102 221 clause 14.5.6.

- TS 102 221 [13]

- TS 31.102 [14]

##### 27.22.7.10.3 Test purpose

To verify that the ME shall send an ENVELOPE (EVENT DOWNLOAD - Data available) to the UICC after the ME receives a packet of data from the server by the BIP channel previously opened.

To verify that the ME shall send an ENVELOPE (EVENT DOWNLOAD - Data available) to the UICC when the ME resumes the UICC and receives a packet of data from the server by the BIP channel previously opened.

To verify that the ME is performing BIP session correctly when the ME is configured and using PSM or eDRX.

##### 27.22.7.10.4 Method of test

27.22.7.10.4.1 Initial conditions

The ME is connected to the USIM Simulator and only connected to the USS if the USS is mentioned in the sequence table.. The elementary files are coded as Toolkit default for sequence 1.1.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure. The UICC must have sent the SET UP EVENT LIST to the ME to supply a set of events (event Data available).

For MEs supporting BIP related to GPRS in UDP (i.e condition C121 in table B.1), The PROACTIVE COMMAND: OPEN CHANNEL 1.1.1 shall be executed to open a channel successfully at the beginning of the test. The corresponding Terminal Response shall be TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A or TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B.

The PROACTIVE COMMAND: SEND DATA 1.1.1 shall be performed successfully to detect the ME's port number, which has to be addressed by the network simulator when data has to be transmitted to the card. The corresponding Terminal Response shall be TERMINAL RESPONSE: SEND DATA 1.1.1.

The channel identifier value used for these tests is set to 1 as an example.

This channel identifier is dependent on the ME's default channel identifier as declared in table A.2/27.

The following Bearer Parameters used are those defined in the default Test PDP context3, for test cases using packet services:

Bearer Parameters: Same Bearer Parameters as defined in 27.22.4.27.2.4.1

GPRS Parameters: Same GPRS Parameters as defined in 27.22.4.27.2.4.1

UICC/ME interface transport level: Same UICC/ME transport interface level as defined in 27.22.4.27.2.4.1

Data destination address : Same Data Destination Address as defined in 27.22.4.27.2.4.1.

For sequence 1.2, 1.3, 1.4 and 1.5 the default E-UTRAN/EPC UICC, the default E-UTRAN parameters and the following parameters are used:

Network access name: TestGp.rs

User login: UserLog

User password: UserPwd

UICC/ME interface transport level: Same UICC/ME transport interface level as defined in 27.22.4.27.6.4.1

Data destination address : Sames Data Destination Address as defined in 27.22.4.27.6.4.1.

For sequence 1.3 UICC suspension mechanism is indicated as supported by the UICC in the UICC Maximum Power Consumption file (EFUMPC) and the PIN of the USIM is enabled.

For sequence 1.4, UICC suspension mechanism is not indicated as supported by the UICC in the UICC Maximum Power Consumption file (EFUMPC) and the PIN of the USIM is disabled.

Prior to sequence 1.3 and 1.4, the ME was prepared to use PSM, has been powered on, attached to the E-USS/NB-SS where the PSM use was accepted by the network. Immediately after the Active Time (T3324) is started and the UE has performed the PROFILE DOWNLOAD procedure, the test sequence shall be executed.

For sequence 1.5 the UICC suspension mechanism is indicated as supported by the UICC in the UICC Maximum Power Consumption file (EFUMPC), the ME is authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle in EFAD (Administrative Data) and the PIN of the USIM is enabled.

Prior to sequence 1.5, the ME was prepared to use eDRX, has been powered on, attached to the E-USS/NB-SS where the eDRX use was accepted by the network and performed the PROFILE DOWNLOAD procedure.

27.22.7.10.4.2 Procedure

Expected sequence 1.1 (EVENT DOWNLOAD - Data available)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.1.1 | See initial conditions |
| 2 | ME → UICC | FETCH |  |
| 3 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.1.1 | [Command performed successfully] |
| 4 | ME → USER | The ME may display channel opening information |  |
| 5 | ME → USS | PDP context activation request | [The UE may request IPv4 or IPv4v6 address as PDP type.] |
| 6 | USS → ME | PDP context activation accept |  |
| 7 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A  or  TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B |  |
| 8 | UICC → ME | PROACTIVE COMMAND PENDING: SEND DATA 1.1.1 |  |
| 9 | ME → UICC | FETCH |  |
| 10 | UICC → ME | PROACTIVE COMMAND: SEND DATA (immediate) 1.1.1 |  |
| 11 | ME → USS | Transfer of 8 Bytes of data to the USS through channel 1 | [To retrieve ME's port number] |
| 12 | ME → UICC | TERMINAL RESPONSE: SEND DATA (immediate) 1.1.1 | [Command performed successfully] |
| 13 | USS → ME | Data sent through the BIP channel using the ME's port number, which was retrieved in step 11 |  |
| 14 | ME → UICC | ENVELOPE 1.1.1 (Event-Data Available) |  |

PROACTIVE COMMAND: OPEN CHANNEL 1.1.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: UICC

Destination device: ME

Bearer

Bearer type: GPRS

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Network access name: TestGp.rs

Text String: UserLog (User login)

Text String: UserPwd (User password)

UICC/ME interface transport level

Transport format: UDP

Port number: 44444

Data destination address 01.01.01.01

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV | D0 | 42 | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 81 | 82 | 35 |
|  | 07 | 02 | 03 | 04 | 03 | 04 | 1F | 02 | 39 | 02 | 03 | E8 |
|  | 47 | 0A | 06 | 54 | 65 | 73 | 74 | 47 | 70 | 02 | 72 | 73 |
|  | 0D | 08 | F4 | 55 | 73 | 65 | 72 | 4C | 6F | 67 | 0D | 08 |
|  | F4 | 55 | 73 | 65 | 72 | 50 | 77 | 64 | 3C | 03 | 01 | AD |
|  | 9C | 3E | 05 | 21 | 01 | 01 | 01 | 01 |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 03 | 04 | 03 | 04 | 1F |
|  | 02 | 39 | 02 | 03 | E8 |  |  |  |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS

Bearer parameter:

Precedence Class: 00

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 00 | 04 | 03 | 04 | 1F |
|  | 02 | 39 | 02 | 03 | E8 |  |  |  |  |  |  |  |

PROACTIVE COMMAND: SEND DATA 1.1.1

Logically:

Command details

Command number: 1

Command type: SEND DATA

Command qualifier: Send Immediately

Device identities

Source device: UICC

Destination device: Channel 1

Channel Data

Channel Data: 00 01 .. 07 (8 Bytes of data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 13 | 81 | 03 | 01 | 43 | 01 | 82 | 02 | 81 | 21 | B6 |
|  | 08 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |  |  |  |

TERMINAL RESPONSE: SEND DATA 1.1.1

Logically:

Command details

Command number: 1

Command type: SEND DATA

Command qualifier: Send Immediately

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel data length: More than 255 bytes of space available in the Tx buffer

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 43 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | B7 | 01 | FF |  |  |  |  |  |  |  |  |  |

ENVELOPE: EVENT DOWNLOAD - Data available 1.1.1

Logically:

Event list

Event: Data available

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1 open, link established

Channel Data Length

Channel data length: 8 Bytes available in Rx buffer

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 99 | 01 | 09 | 82 | 02 | 82 | 81 | B8 | 02 | 81 |
|  | 00 | B7 | 01 | 08 |  |  |  |  |  |  |  |  |

Expected sequence 1.2 (EVENT DOWNLOAD - Data available, E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 PENDING |  |
| 2 | ME → UICC | FETCH |  |
| 3 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 |  |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 |  |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.2.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.2.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → E-USS/NB-SS | PDN CONNECTIVITY REQUEST | [The UE may request IPv4 or IPv4v6 as PDN type.] |
| 10 | E-USS/NB-SS → ME | ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST | [The E-UTRAN parameters are used] |
| 11 | ME → E-USS/NB-SS | ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT |  |
| 12 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.2.1 | [Command performed successfully] |
| 13 | UICC → ME | PROACTIVE COMMAND PENDING: SEND DATA 1.2.1 |  |
| 14 | ME → UICC | FETCH |  |
| 15 | UICC → ME | PROACTIVE COMMAND: SEND DATA (immediate) 1.2.1 |  |
| 16 | ME → E-USS/NB-SS | Transfer of 8 Bytes of data to the USS through channel 1 | [To retrieve ME's port number] |
| 17 | ME → UICC | TERMINAL RESPONSE: SEND DATA (immediate) 1.2.1 | [Command performed successfully] |
| 18 | E-USS/NB-SS → ME | Data sent through the BIP channel using the ME's port number, which was retrieved in step 16 |  |
| 19 | ME → UICC | ENVELOPE 1.2.1 (Event-Data Available) | [Command performed successfully] |

PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: RFU

Device identities

Source device: UICC

Destination device: ME

Event list Data available

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 09 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: RFU

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

PROACTIVE COMMAND: OPEN CHANNEL 1.2.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: UICC

Destination device: ME

Alpha Identifier: empty

Bearer

Bearer type: GPRS / UTRAN packet service / E-UTRAN

Precedence Class: 03

Delay Class: 04

Reliability Class: 02

Peak throughput class: 09

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1400

Network access name: Test12.rs

Text String: "UserLog" (User login)

Text String: "UserPwd" (User password)

UICC/ME interface transport level

Transport format: TCP

Port number: 44444

Data destination address 01.01.01.01

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 44 | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 81 | 82 | 85 |
|  | 00 | 35 | 07 | 02 | 03 | 04 | 02 | 09 | 1F | 02 | 39 | 02 |
|  | 05 | 78 | 47 | 0A | 06 | 54 | 65 | 73 | 74 | 31 | 32 | 02 |
|  | 72 | 73 | 0D | 08 | F4 | 55 | 73 | 65 | 72 | 4C | 6F | 67 |
|  | 0D | 08 | F4 | 55 | 73 | 65 | 72 | 50 | 77 | 64 | 3C | 03 |
|  | 02 | AD | 9C | 3E | 05 | 21 | 01 | 01 | 01 | 01 |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.2.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS / UTRAN packet service / E-UTRAN

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 02

Peak throughput class: 09

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1400

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 03 | 04 | 02 | 09 | 1F |
|  | 02 | 39 | 02 | 05 | 78 |  |  |  |  |  |  |  |

PROACTIVE COMMAND: SEND DATA 1.2.1

Logically:

Command details

Command number: 1

Command type: SEND DATA

Command qualifier: Send Immediately

Device identities

Source device: UICC

Destination device: Channel 1

Channel Data

Channel Data: 00 01 .. 07 (8 Bytes of data)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 13 | 81 | 03 | 01 | 43 | 01 | 82 | 02 | 81 | 21 | B6 |
|  | 08 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |  |  |  |

TERMINAL RESPONSE: SEND DATA 1.2.1

Logically:

Command details

Command number: 1

Command type: SEND DATA

Command qualifier: Send Immediately

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel data length: More than 255 bytes of space available in the Tx buffer

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 43 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | B7 | 01 | FF |  |  |  |  |  |  |  |  |  |

ENVELOPE: EVENT DOWNLOAD - Data available 1.2.1

Logically:

Event list

Event: Data available

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1 open, link established

Channel Data Length

Channel data length: 8 Bytes available in Rx buffer

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 99 | 01 | 09 | 82 | 02 | 82 | 81 | B8 | 02 | 81 |
|  | 00 | B7 | 01 | 08 |  |  |  |  |  |  |  |  |

Expected sequence 1.3 (EVENT DOWNLOAD - Data available, PSM by SUSPEND UICC for E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 PENDING |  |
| 2 | ME → UICC | FETCH |  |
| 3 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 |  |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 |  |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.2.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.2.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → E‑USS/NB-SS | PDN CONNECTIVITY REQUEST | [The UE may request IPv4 or IPv4v6 as PDN type.] |
| 10 | E-USS/NB-SS → ME | ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST | [The E-UTRAN parameters are used] |
| 11 | ME → E‑USS/NB-SS | ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT |  |
| 12 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.2.1 | [Command performed successfully] |
| 13 | UICC → ME | PROACTIVE COMMAND PENDING: SEND DATA 1.2.1 |  |
| 14 | ME → UICC | FETCH |  |
| 15 | UICC → ME | PROACTIVE COMMAND: SEND DATA (immediate) 1.2.1 |  |
| 16 | ME → E‑USS/NB-SS | Transfer of 8 bytes of data to the E‑USS/NB-SS through channel 1 | [To retrieve ME's port number] |
| 17 | ME → UICC | TERMINAL RESPONSE: SEND DATA (immediate) 1.2.1 | [Command performed successfully] |
| 18 | E-USS/NB-SS → ME | 200 bytes of data sent through the BIP channel using the ME's port number, which was retrieved in step 16 |  |
| 19 | ME → UICC | ENVELOPE 1.3.1 (Event-Data Available) | [Command performed successfully] |
| 20 | UICC → ME | PROACTIVE COMMAND PENDING: RECEIVE DATA 1.3.1 |  |
| 21 | ME → UICC | FETCH |  |
| 22 | UICC → ME | PROACTIVE COMMAND: RECEIVE DATA 1.3.1 |  |
| 23 | ME → UICC | TERMINAL RESPONSE: RECEIVE DATA 1.3.1 | [Command performed successfully] |
| 24 | UICC → ME | PROACTIVE COMMAND PENDING: CLOSE CHANNEL 1.3.1 |  |
| 25 | ME → UICC | FETCH |  |
| 26 | UICC → ME | PROACTIVE COMMAND: CLOSE CHANNEL 1.3.1 |  |
| 27 | ME → UICC | TERMINAL RESPONSE CLOSE CHANNEL 1.3.1 | [Command performed successfully] Before performing this step, and during the above session, the ME should not try to suspend the UICC. |
| 28 | ME 🡪 UICC | Suspend the UICC | ME is in the PSM. |
| 29 | User 🡪 ME | Wait until the ME resumes the UICC before it leaves the PSM |  |
| 30 |  | Perform steps 5 -17 |  |
| 31 | E-USS/NB-SS → ME | 8 bytes of data sent through the BIP channel using the ME's port number, which was retrieved to transfer the data to the E‑USS/NB-SS |  |
| 32 | ME → UICC | ENVELOPE 1.2.1 (Event-Data Available) | [Command performed successfully] |

ENVELOPE: EVENT DOWNLOAD - Data available 1.3.1

Logically:

Event list

Event: Data available

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1 open, link established

Channel Data Length

Channel data length: C8 (200 bytes available in Rx buffer)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coding:BER-TLV: | D6 | 0E | 99 | 01 | 09 | 82 | 02 | 82 | 81 | B8 | 02 | 81 |
|  | 00 | B7 | 01 | C8 |  |  |  |  |  |  |  |  |

PROACTIVE COMMAND: RECEIVE DATA 1.3.1

Logically:

Command details

Command number: 1

Command type: RECEIVE DATA

Command qualifier: RFU

Device identities

Source device: UICC

Destination device: Channel 1

Channel Data Length

Channel Data Length: C8 (200 bytes)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 42 | 00 | 82 | 02 | 81 | 21 | B7 |
|  | 01 | C8 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: RECEIVE DATA 1.3.1

Logically:

Command details

Command number: 1

Command type: RECEIVE DATA

Command qualifier: RFU

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel Data: 00 01 02 .. C7 (200 bytes of data)

Channel data length: 00 (0 bytes left to transfer)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 42 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | B6 | 81 | C8 | 00 | 01 | 02 | .. | C7 | B7 | 01 | 00 |  |

PROACTIVE COMMAND: CLOSE CHANNEL 1.3.1

Logically:

Command details

Command number: 1

Command type: CLOSE CHANNEL

Command qualifier: RFU

Device identities

Source device: UICC

Destination device: Channel 1

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 09 | 81 | 03 | 01 | 41 | 00 | 82 | 02 | 81 | 21 |

TERMINAL RESPONSE: CLOSE CHANNEL 1.3.1

Logically:

Command details

Command number: 1

Command type: CLOSE CHANNEL

Command qualifier: RFU

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 41 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

Expected sequence 1.4 (EVENT DOWNLOAD - Data available, PSM for E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 PENDING |  |
| 2 | ME → UICC | FETCH |  |
| 3 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 |  |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 |  |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.2.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.2.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → E‑USS/NB-SS | PDN CONNECTIVITY REQUEST | [The UE may request IPv4 or IPv4v6 as PDN type.] |
| 10 | E-USS/NB-SS → ME | ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST | [The E-UTRAN parameters are used] |
| 11 | ME → E‑USS/NB-SS | ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT |  |
| 12 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.2.1 | [Command performed successfully] |
| 13 | UICC → ME | PROACTIVE COMMAND PENDING: SEND DATA 1.2.1 |  |
| 14 | ME → UICC | FETCH |  |
| 15 | UICC → ME | PROACTIVE COMMAND: SEND DATA (immediate) 1.2.1 |  |
| 16 | ME → E‑USS/NB-SS | Transfer of 8 bytes of data to the E-USS/NB-SS through channel 1 | [To retrieve ME's port number] |
| 17 | ME → UICC | TERMINAL RESPONSE: SEND DATA (immediate) 1.2.1 | [Command performed successfully] |
| 18 | E-USS/NB-SS → ME | 200 bytes of data sent through the BIP channel using the ME's port number, which was retrieved in step 16 |  |
| 19 | ME → UICC | ENVELOPE 1.3.1 (Event-Data Available) | [Command performed successfully] |
| 20 | UICC → ME | PROACTIVE COMMAND PENDING: RECEIVE DATA 1.3.1 |  |
| 21 | ME → UICC | FETCH |  |
| 22 | UICC → ME | PROACTIVE COMMAND: RECEIVE DATA 1.3.1 |  |
| 23 | ME → UICC | TERMINAL RESPONSE: RECEIVE DATA 1.3.1 | [Command performed successfully] |
| 24 | UICC → ME | PROACTIVE COMMAND PENDING: CLOSE CHANNEL 1.3.1 |  |
| 25 | ME → UICC | FETCH |  |
| 26 | UICC → ME | PROACTIVE COMMAND: CLOSE CHANNEL 1.3.1 |  |
| 27 | ME → UICC | TERMINAL RESPONSE CLOSE CHANNEL 1.3.1 | [Command performed successfully] |
| 28 | ME → UICC | Deactivate the UICC | ME is in the PSM. |
| 29 | User → ME | Wait until the ME activates the UICC before it leaves the PSM |  |
| 30 |  | Perform steps 1 -27 |  |

Expected sequence 1.5 (EVENT DOWNLOAD - Data available, eDRX by SUSPEND UICC for E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 PENDING |  |
| 2 | ME → UICC | FETCH |  |
| 3 | UICC → ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 |  |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 |  |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.2.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.2.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → E‑USS/NB-SS | PDN CONNECTIVITY REQUEST | [The UE may request IPv4 or IPv4v6 as PDN type.] |
| 10 | E-USS/NB-SS → ME | ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST | [The E-UTRAN parameters are used] |
| 11 | ME → E‑USS/NB-SS | ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT |  |
| 12 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.2.1 | [Command performed successfully] |
| 13 | UICC → ME | PROACTIVE COMMAND PENDING: SEND DATA 1.2.1 |  |
| 14 | ME → UICC | FETCH |  |
| 15 | UICC → ME | PROACTIVE COMMAND: SEND DATA (immediate) 1.2.1 |  |
| 16 | ME → E‑USS/NB-SS | Transfer of 8 bytes of data to the E-USS/NB-SS through channel 1 | [To retrieve ME's port number] |
| 17 | ME → UICC | TERMINAL RESPONSE: SEND DATA (immediate) 1.2.1 | [Command performed successfully] |
| 18 | E-USS/NB-SS → ME | 200 bytes ofdata sent through the BIP channel using the ME's port number, which was retrieved in step 16 |  |
| 19 | ME → UICC | ENVELOPE 1.3.1 (Event-Data Available) | [Command performed successfully] |
| 20 | UICC → ME | PROACTIVE COMMAND PENDING: RECEIVE DATA 1.3.1 |  |
| 21 | ME → UICC | FETCH |  |
| 22 | UICC → ME | PROACTIVE COMMAND: RECEIVE DATA 1.3.1 |  |
| 23 | ME → UICC | TERMINAL RESPONSE: RECEIVE DATA 1.3.1 | [Command performed successfully] |
| 24 | UICC → ME | PROACTIVE COMMAND PENDING: CLOSE CHANNEL 1.3.1 |  |
| 25 | ME → UICC | FETCH |  |
| 26 | UICC → ME | PROACTIVE COMMAND: CLOSE CHANNEL 1.3.1 |  |
| 27 | ME → UICC | TERMINAL RESPONSE CLOSE CHANNEL 1.3.1 | [Command performed successfully] Before performing this step, and during the above session, the ME should not try to suspend the UICC. |
| 28 | ME → UICC | Suspend the UICC | The ME is in extended idle mode DRX cycle. |
| 29 | User → ME | Wait until the ME resumes the UICC |  |
| 30 |  | Perform steps 5 -17 |  |
| 31 | E-USS/NB-SS → ME | 8 bytes of data sent through the BIP channel using the ME's port number, which was retrieved to transfer the data to the E-USS/NB-SS |  |
| 32 | ME → UICC | ENVELOPE 1.2.1 (Event-Data Available) | [Command performed successfully] |

##### 27.22.7.10.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1 to 1.5.

#### 27.22.7.11 Channel Status event

##### 27.22.7.11.1 Definition and applicability

See clause 3.2.2.

##### 27.22.7.11.2 Conformance requirements

The ME shall support the class "e" commands as defined in:

- TS 31.111 [15].

Additionally the ME shall support ENVELOPE (EVENT DOWNLOAD - Channel Status).

##### 27.22.7.11.3 Test purpose

To verify that the ME shall send an ENVELOPE (EVENT DOWNLOAD - Channel Status) to the UICC after the link dropped between the NETWORK and the ME.

##### 27.22.7.11.4 Method of test

27.22.7.11.4.1 Initial conditions

The ME is connected to the USIM Simulator and the System Simulator. The elementary files are coded as Toolkit default for sequence 1.1.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

For MEs supporting BIP related to GPRS in UDP (i.e condition C121 in table B.1), The PROACTIVE COMMAND: OPEN CHANNEL 1.1.1 shall be executed to open a channel successfully at the beginning of the test. The corresponding Terminal Response shall be TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A or TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B.

The channel identifier value used for these tests is set to 1 as an example.

This channel identifier is dependent on the ME's default channel identifier as declared in table A.2/27.

The following Bearer Parameters used are those defined in the default Test PDP context3, for test cases using packet services:

Bearer Parameters: Same Bearer Parameters as defined in 27.22.4.27.2.4.1

GPRS Parameters: Same GPRS Parameters as defined in 27.22.4.27.2.4.1

UICC/ME interface transport level: Same UICC/ME transport interface level as defined in 27.22.4.27.2.4.1

Data destination address : Same Data Destination Address as defined in 27.22.4.27.2.4.1.

For sequence 1.2 the default E-UTRAN/EPC UICC, the default E-UTRAN parameters and the following parameters are used:

Bearer Parameters: Same Bearer Parameters as defined in 27.22.4.27.6.4.1

UICC/ME interface transport level: Same UICC/ME transport interface level as defined in 27.22.4.27.6.4.1

Data destination address : Sames Data Destination Address as defined in 27.22.4.27.6.4.1.

27.22.7.11.4.2 Procedure

Expected sequence 1.1 (EVENT DOWNLOAD - Channel Status on a link dropped)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | [EVENT: channel status] |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | [command performed successfully] |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.1.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.1.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → USS | PDP context activation request | [The UE may request IPv4 or IPv4v6 address as PDP type.] |
| 10 | USS → ME | PDP context activation accept |  |
| 11 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A  or  TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B | [Command performed successfully] |
| 12 | USS → ME | Link dropped |  |
| 13 | ME → UICC | ENVELOPE 1.1.1 (Event-Channel Status) |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Channel Status

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 |
|  | 99 | 01 | 0A |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

PROACTIVE COMMAND: OPEN CHANNEL 1.1.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: UICC

Destination device: ME

Bearer

Bearer type: GPRS

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Network access name: TestGp.rs

Text String: UserLog (User login)

Text String: UserPwd (User password)

UICC/ME interface transport level

Transport format: UDP

Port number: 44444

Data destination address 01.01.01.01

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV | D0 | 42 | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 81 | 82 | 35 |
|  | 07 | 02 | 03 | 04 | 03 | 04 | 1F | 02 | 39 | 02 | 03 | E8 |
|  | 47 | 0A | 06 | 54 | 65 | 73 | 74 | 47 | 70 | 02 | 72 | 73 |
|  | 0D | 08 | F4 | 55 | 73 | 65 | 72 | 4C | 6F | 67 | 0D | 08 |
|  | F4 | 55 | 73 | 65 | 72 | 50 | 77 | 64 | 3C | 03 | 01 | AD |
|  | 9C | 3E | 05 | 21 | 01 | 01 | 01 | 01 |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.1.1A

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 03 | 04 | 03 | 04 | 1F |
|  | 02 | 39 | 02 | 03 | E8 |  |  |  |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.1.1B

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS

Bearer parameter:

Precedence Class: 00

Delay Class: 04

Reliability Class: 03

Peak throughput class: 04

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1000

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 00 | 04 | 03 | 04 | 1F |
|  | 02 | 39 | 02 | 03 | E8 |  |  |  |  |  |  |  |

ENVELOPE: EVENT DOWNLOAD - Channel Status 1.1.1

Logically:

Event list

Event: Channel Status

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1, link dropped

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0B | 99 | 01 | 0A | 82 | 02 | 82 | 81 | B8 | 02 | 01 |
|  | 05 |  |  |  |  |  |  |  |  |  |  |  |

Expected sequence 1.2 (EVENT DOWNLOAD - Channel Status on a link dropped, E-UTRAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.2.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1 | [EVENT: channel status] |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1 | [command performed successfully] |
| 5 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.2.1 | See initial conditions |
| 6 | ME → UICC | FETCH |  |
| 7 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL 1.2.1 |  |
| 8 | ME → USER | The ME may display channel opening information |  |
| 9 | ME → E-USS/NB-SS | PDN CONNECTIVITY REQUEST | [The UE may request IPv4 or IPv4v6 as PDN type.] |
| 10 | E-USS/NB-SS → ME | ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST |  |
| 11 | ME → E-USS/NB-SS | ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT |  |
| 12 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL 1.2.1A  or  TERMINAL RESPONSE: OPEN CHANNEL 1.2.1B | [Command performed successfully] |
| 13 | E-USS/NB-SS → ME | Link dropped |  |
| 14 | ME → UICC | ENVELOPE 1.2.1 (Event-Channel Status) | [Command performed successfully] |

PROACTIVE COMMAND: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: RFU

Device identities

Source device: UICC

Destination device: ME

Event list Data available

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 0A |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.2.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: RFU

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

PROACTIVE COMMAND: OPEN CHANNEL 1.2.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: UICC

Destination device: ME

Bearer

Bearer type: GPRS / UTRAN packet service / E-UTRAN

Precedence Class: 03

Delay Class: 04

Reliability Class: 02

Peak throughput class: 09

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1400

Network access name: TestGp.rs

Text String: "UserLog" (User login)

Text String: "UserPwd" (User password)

UICC/ME interface transport level

Transport format: TCP

Port number: 44444

Data destination address 01.01.01.01

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 42 | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 81 | 82 | 35 |
|  | 07 | 02 | 03 | 04 | 02 | 09 | 1F | 02 | 39 | 02 | 05 | 78 |
|  | 47 | 0A | 06 | 54 | 65 | 73 | 74 | 47 | 70 | 02 | 72 | 73 |
|  | 0D | 08 | F4 | 55 | 73 | 65 | 72 | 4C | 6F | 67 | 0D | 08 |
|  | F4 | 55 | 73 | 65 | 72 | 50 | 77 | 64 | 3C | 03 | 02 | AD |
|  | 9C | 3E | 05 | 21 | 01 | 01 | 01 | 01 |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.2.1A

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS / UTRAN packet service / E-UTRAN

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 02

Peak throughput class: 09

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1400

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 03 | 04 | 02 | 09 | 1F |
|  | 02 | 39 | 02 | 05 | 78 |  |  |  |  |  |  |  |

TERMINAL RESPONSE: OPEN CHANNEL 1.2.1B

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: immediate link establishment

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed with modifications

Channel status Channel identifier 1 and link established or PDP context activated

Bearer description

Bearer type: GPRS / UTRAN packet service / E-UTRAN

Bearer parameter:

Precedence Class: 03

Delay Class: 04

Reliability Class: 02

Peak throughput class: 09

Mean throughput class: 31

Packet data protocol: 02 (IP)

Buffer

Buffer size: 1400

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 07 |
|  | 38 | 02 | 81 | 00 | 35 | 07 | 02 | 03 | 04 | 02 | 09 | 1F |
|  | 02 | 39 | 02 | 05 | 78 |  |  |  |  |  |  |  |

ENVELOPE: EVENT DOWNLOAD - Channel Status 1.2.1

Logically:

Event list

Event: Channel Status

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1, link dropped

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0B | 99 | 01 | 0A | 82 | 02 | 82 | 81 | B8 | 02 | 01 |
|  | 05 |  |  |  |  |  |  |  |  |  |  |  |

##### 27.22.7.11.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1 and 1.2.

#### 27.22.7.12 Access Technology Change event

27.22.7.12.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.12.1.2 Conformance requirement

The ME shall support the EVENT: Access Technology Change event as defined in:

- 3GPP TS 31.111 [15] clause 4.7, 4.12, 7.5.12 and clause 8.61.

27.22.7.12.1.3 Test purpose

If the Access Technology Change event is part of the current event list (as set up by the last SET UP EVENT LIST command), then, when the terminal detects a change in its current access technology, verify that the terminal shall inform the UICC that this has occurred, by using the ENVELOPE (EVENT DOWNLOAD - Access Technology Change).

If the event is set up with support for multiple access technologies, the UICC shall be informed if any of the access technologies changes.

27.22.7.12.1.4 Method of test

27.22.7.12.1.4.1 Initial conditions

For test sequence 1.1:

The ME is connected to the USIM Simulator and the UMTS System Simulator.

The default E-UTRAN/EPC UICC is used.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The E-UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Identity value = 0001 (28 bits);

The UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Location Area Code (LAC) = 0001;

- Cell Identity value = 0001;

For test sequence 1.3:

The ME is connected to the USIM Simulator and the GSM System Simulator.

The default E-UTRAN/EPC UICC is used.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The GSM parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Location Area Code (LAC) = 0001

The E-UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Identity value = 0001 (28 bits);

The NB-SS parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Identity value = 0001 (28 bits);

For test sequence 1.4:

The ME is connected to the USIM Simulator and the NG-SS.

The default NG-RAN UICC is used.

The ME shall be powered off.

The NG-RAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 000001;

- NG-RAN Cell Identifier = 0001 (36 bits);

27.22.7.12.1.4.2 Procedure

**Expected Sequence 1.1 (EVENT DOWNLOAD – Access Technology Change, single access technology)**

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME 🡪 UICC | FETCH |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4a | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 4b | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD - Access technology change Event | This step applies only if A.1/171 |
| 5 | E-USS | ME detects a change in its current access technology | E-UTRA cell is enabled and UTRA cell is disabled |
| 6 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Access technology change Event 1.1.1 | Access Technology = E-UTRAN |
| 7 | E-USS | ME detects a change in its current access technology | E-UTRA cell is disabled and UTRA cell is enabled |
| 8 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Access technology change Event 1.1.2 | Access Technology = UTRAN |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details:

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities:

Source device: UICC

Destination device: ME

Event list:

Event 1: Access Technology Change (single access technology)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 0B |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details:

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities:

Source device: ME

Destination device: UICC

Result:

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

ENVELOPE: EVENT DOWNLOAD – Access Technology Change 1.1.1

Logically:

Event list: Access Technology Change (single access technology)

Device identities:

Source device: ME

Destination device: UICC

Access Technology: E-UTRAN

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 0B | 82 | 02 | 82 | 81 | 3F | 01 | 08 |

ENVELOPE: EVENT DOWNLOAD – Access Technology Change 1.1.2

Logically:

Event list: Access Technology Change (single access technology)

Device identities:

Source device: ME

Destination device: UICC

Access Technology: UTRAN

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 0B | 82 | 02 | 82 | 81 | 3F | 01 | 03 |

Expected Sequence 1.2 (EVENT DOWNLOAD – Access Technology Change, multiple access technologies)

TBD

Expected Sequence 1.3 (EVENT DOWNLOAD – Access Technology Change, single access technology – WB-S1 (Cat M1)/NB-S1)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME 🡪 UICC | FETCH |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD - Access technology change Event 1.1.3 |  |
| 6 | E-USS/NB-SS | ME detects a change in its current access technology | E-UTRA/NB-IoT cell is enabled and GSM cell is disabled |
| 7 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Access technology change Event 1.1.1 | Access Technology = E-UTRAN |
| 8 | E-USS/NB-SS | ME detects a change in its current access technology | E-UTRA/NB-IoT cell is disabled and GSM cell is enabled |
| 9 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Access technology change Event 1.1.3 | Access Technology = GSM |

ENVELOPE: EVENT DOWNLOAD – Access Technology Change 1.1.3

Logically:

Event list: Access Technology Change (single access technology)

Device identities:

Source device: ME

Destination device: UICC

Access Technology: GSM

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 0B | 82 | 02 | 82 | 81 | 3F | 01 | 00 |

Expected Sequence 1.4 (EVENT DOWNLOAD – Access Technology Change, single access technology, NG-RAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | NG-SS | No NG-RAN cell initially available |  |
| 2 | USER 🡪 ME | Switch on the ME |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME 🡪 UICC | FETCH |  |
| 5 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 6 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 7 | NG-SS | The NG-RAN cell is switched on |  |
| 8 | ME 🡪 NG-SS | The ME registers to the NG-RAN cell |  |
| 9 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Access technology change Event 1.4.1 | Access Technology = 3GPP NR |

ENVELOPE: EVENT DOWNLOAD – Access Technology Change 1.4.1

Logically:

Event list: Access Technology Change (single access technology)

Device identities:

Source device: ME

Destination device: UICC

Access Technology: 3GPP NR

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 19 | 01 | 0B | 82 | 02 | 82 | 81 | 3F | 01 | 0A |

27.22.7.12.1.5 Test requirement

The ME shall operate in the manner defined in expected sequences 1.1 to 1.4.

#### 27.22.7.13 Display parameter changed event

TBD

#### 27.22.7.14 Local Connection event

TBD

#### 27.22.7.15 Network search mode change event

##### 27.22.7.15.1 Definition and applicability

See clause 3.2.2.

##### 27.22.7.15.2 Conformance requirements

The ME shall support the network search mode mechanism, as described in TS 31.111 [15] clause 4.13.

##### 27.22.7.15.3 Test purpose

To verify that the ME sends an ENVELOPE (EVENT DOWNLOAD – Network search mode change) to the UICC when network search mode is changed in ME.

##### 27.22.7.15.4 Method of test

27.22.7.15.4.1 Initial conditions

The ME is connected to the USIM Simulator. The elementary files are coded as Toolkit default.

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

The ME is configured in automatic network search mode.

27.22.7.15.4.2 Procedure

Expected sequence 1.1 (EVENT DOWNLOAD – Network search mode change)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | UICC → ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | [EVENT: network search mode] |
| 4 | ME → UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | [command performed successfully] |
| 5 | User | The user sets the ME to manual network selection mode |  |
| 6 | ME → UICC | ENVELOPE 1.1.1 (Event - Network search mode change) | [changed to manual] |
| 7 | User | The user sets the ME to automatic network selection mode |  |
| 8 | ME → UICC | ENVELOPE 1.1.2 (Event - Network search mode change) | [changed to automatic] |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Network search mode change

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 |
|  | 99 | 01 | 0E |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

ENVELOPE: EVENT DOWNLOAD – Network search mode change 1.1.1

Logically:

Event list

Event: Network search mode change

Device identities

Source device: ME

Destination device: UICC

Network search mode

Network search mode: manual

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 99 | 01 | 0E | 82 | 02 | 82 | 81 | E5 | 01 | 00 |

ENVELOPE: EVENT DOWNLOAD – Network search mode change 1.1.2

Logically:

Event list

Event: Network search mode change

Device identities

Source device: ME

Destination device: UICC

Network search mode

Network search mode: automatic

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0A | 99 | 01 | 0E | 82 | 02 | 82 | 81 | E5 | 01 | 01 |

##### 27.22.7.15.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.16 Browsing status event

TBD

#### 27.22.7.17 Network Rejection Event

27.22.7.17.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.17.1.2 Conformance requirement

The ME shall support the EVENT: Network Rejection event E-UTRAN as defined in:

- TS 31.111 [15] clause 4.7, 5.2, 7.5.2, 8.62 and clause 8.99.

The ME shall support the EVENT: Network Rejection event for NG-RAN as defined in:

- TS 31.111 [15] clause 4.7, 5.2, 7.5.2 and 8.62.

27.22.7.17.1.3 Test purpose

For sequences 1.1 and 1.2:

- To verify that the ME informs the UICC with the Event about the Network Rejection.

- To verify that the Rejection Cause Code sent to the UICC is the value from the EMM cause information element received from the E-UTRAN.

- To verify that the correct Access Technology is indicated ENVELOPE: EVENT DOWNLOAD – Network Rejection after the unsuccessful attempt to access the E-UTRAN.

- To verify that the correct Update/Attach/Registration Type is indicated ENVELOPE: EVENT DOWNLOAD – Network Rejection.

For sequence 1.3 and 1.4:

- To verify that the Rejection Cause Code sent to the UICC is the value from the 5GMM cause information element received from the NG-RAN.

- To verify that the correct Access Technology is indicated ENVELOPE: EVENT DOWNLOAD – Network Rejection after the unsuccessful attempt to access the NG-RAN.

- To verify that the correct Update/Attach/Registration Type is indicated ENVELOPE: EVENT DOWNLOAD – Network Rejection.

27.22.7.17.1.4 Method of test

27.22.7.17.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the E-USS/NG-SS.

The default E-UTRAN/EPC or NG-RAN UICC is used.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

If programmable USIM with test applet is used (as defined in clause 27.0), UICC shall register for Network Rejection Event using the proactive command SET UP EVENT LIST with Network Rejection event in the event list (ref to 102.241 cl 6.7.1.2).

The E-UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

The NG-RAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 000001;

27.22.7.17.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD – Network Rejection, ATTACH REJECT)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | E-USS/NB-SS | No E-UTRAN/NB-IoT available. |  |
| 2 | USER  ME | Switch on the terminal. |  |
| 3 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME  UICC | FETCH |  |
| 5 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 6 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 7 | E-USS/NB-SS | The E-UTRAN/NB-IoT cell is switched on. |  |
| 8 | USERME | The terminal is made to start a registration attempt to the E-USS/NB-SS. |  |
| 9 | MEE-USS/NB-SS | The terminal requests RRC CONNECTION and therefore starts the EPS Attach procedure. |  |
| 10 | E-USS/NB-SSME | The E-USS/NB-SS sends EMM ATTACH REJECT with cause "PLMN not allowed". |  |
| 11 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.1.1 or 1.1.2 |  |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Network Rejection

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 12 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.1.1

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 0001

Access Technology: E-UTRAN

Update/Attach Type: EPS Attach

Rejection Cause Code: PLMN not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 05 | 00 |
|  | F1 | 10 | 00 | 01 | 3F | 01 | 08 | 74 | 01 | 09 | 75 | 01 |
|  | 0B |  |  |  |  |  |  |  |  |  |  |  |

ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.1.2

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 0001

Access Technology: E-UTRAN

Update/Attach Type: Combined EPS/IMSI Attach

Rejection Cause Code: PLMN not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 05 | 00 |
|  | F1 | 10 | 00 | 01 | 3F | 01 | 08 | 74 | 01 | 0A | 75 | 01 |
|  | 0B |  |  |  |  |  |  |  |  |  |  |  |

Expected Sequence 1.2 (EVENT DOWNLOAD – Network Rejection, TRACKING AREA UPDATE REJECT)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | ME | The ME is registered to the E-USS/NB-SS and in EMM\_IDLE. | The E-USS/NB-SS transmits on cell 1:  MCC: 001  MNC: 01  TAC: 0003 |
| 2 | E-USS/NB-SS | Cell 1 is switched off. |  |
| 3 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME  UICC | FETCH |  |
| 5 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 6 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 7 | E-USS/NB-SS | The E-UTRAN/NB-IoT cell 2 is switched on. | The E-USS/NB-SS transmits on cell 2:  MCC: 001  MNC: 01  TAC: 0001 |
| 8 | ME | The terminal is made to start a re-registration attempt to the E-USS/NB-SS. |  |
| 9 | MEE-USS/NB-SS | The terminal send TRACKING AREA UPDATE REQUEST. |  |
| 10 | E-USS/NB-SS ME | The E-USS/NB-SS sends TRACKING AREA UPDATE REJECT with cause "TRACKING AREA not allowed". |  |
| 11 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.2.1 or 1.2.2 |  |

EVENT DOWNLOAD –Network Rejection 1.2.1

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 0001

Access Technology: E-UTRAN

Update/Attach Type: TA Updating

Rejection Cause Code: Tracking Area not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 05 | 00 |
|  | F1 | 10 | 00 | 01 | 3F | 01 | 08 | 74 | 01 | 0B | 75 | 01 |
|  | 0C |  |  |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD –Network Rejection 1.2.2

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 0001

Access Technology: E-UTRAN

Update/Attach Type: Combined TA/LA updating

Rejection Cause Code: Tracking Area not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 17 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 05 | 00 |
|  | F1 | 10 | 00 | 01 | 3F | 01 | 08 | 74 | 01 | 0C | 75 | 01 |
|  | 0C |  |  |  |  |  |  |  |  |  |  |  |

Expected Sequence 1.3 (EVENT DOWNLOAD – Network Rejection, REGISTRATION REJECT – Initial Registration)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | NG-SS | No NG-RAN cell available. |  |
| 2 | USER 🡪 ME | Switch on the terminal. |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME 🡪 UICC | FETCH |  |
| 5 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 6 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | If programmable USIM with test applet is used (as defined in clause 27.0),  the TERMINAL RESPONSE cannot be verified and that the Event has been registered in the device is implicitly verified at ste step 11 (ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.3.1) |
| 7 | NG-SS | The NG-RAN cell is switched on. |  |
| 8 | USER 🡪 ME | The terminal is made to start a Registration attempt to the NG-SS. |  |
| 9 | ME 🡪 NG-SS | The terminal requests RRC CONNECTION and starts the 5GMM REGISTRATION procedure for "Initial Registration". |  |
| 10 | NG-SS🡪ME | The NG-SS sends REGISTRATION REJECT with cause "PLMN not allowed". |  |
| 11 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.3.1 |  |

ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.3.1

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 000001

Access Technology: 3GPP NR

Update/Attach/Registration Type: Initial Registration

Rejection Cause Code: PLMN not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 18 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 06 | 00 |
|  | F1 | 10 | 00 | 00 | 01 | 3F | 01 | 0A | 74 | 01 | 0F | 75 |
|  | 01 | 0B |  |  |  |  |  |  |  |  |  |  |

Expected Sequence 1.4 (EVENT DOWNLOAD – Network Rejection, REGISTRATION REJECT – Mobility Registration updating)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | USER 🡪 ME | Switch on the terminal. |  |
| 2 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 3 | ME 🡪 UICC | FETCH |  |
| 4 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 | If programmable USIM with test applet is used (as defined in clause 27.0),  the TERMINAL RESPONSE cannot be verified and that the Event has been registered in the device is implicitly verified at ste step 12 (ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.4.1) |
| 5 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 6 | ME | The ME is registered to the NG-SS and in 5GMM\_IDLE. | The NG-SS transmits on cell 1:  MCC: 001  MNC: 01  TAC: 000003 |
| 7 | NG-SS | NG-RAN cell 1 is switched off. |  |
| 8 | NG-SS | NG-RAN cell 2 is switched on. | The NG-SS transmits on cell 2:  MCC: 001  MNC: 01  TAC: 000001 |
| 9 | ME | The terminal is made to start a re-registration attempt to the NG-SS. |  |
| 10 | ME 🡪 NG-SS | The terminal sends 5GMM REGISTRATION REQUEST for "Mobility Registration updating". |  |
| 11 | NG-SS 🡪 ME | The NG-SS sends REGISTRATION REJECT with cause "TRACKING AREA not allowed". |  |
| 12 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Network Rejection 1.4.1 |  |

EVENT DOWNLOAD –Network Rejection 1.4.1

Logically:

Event list: Network Rejection

Device identities

Source device: Network

Destination device: UICC

Tracking Area Identification

MCC: 001

MNC: 01

TAC: 000001

Access Technology: 3GPP NR

Update/Attach/Registration Type: Mobility Registration updating

Rejection Cause Code: Tracking Area not allowed

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 18 | 19 | 01 | 12 | 82 | 02 | 83 | 81 | 7D | 06 | 00 |
|  | F1 | 10 | 00 | 00 | 01 | 3F | 01 | 0A | 74 | 01 | 10 | 75 |
|  | 01 | 0C |  |  |  |  |  |  |  |  |  |  |

27.22.7.17.1.5 Test requirement

The ME shall operate in the manner defined in expected sequences 1.1 and 1.4.

#### 27.22.7.18 CSG Cell Selection event

##### 27.22.7.18.1 CSG Cell Selection (normal)

27.22.7.18.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.18.1.2 Conformance requirement

The ME shall support the EVENT: CSG Cell selection as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, clause 8.25, 8.101, 8.102, 8.103.

27.22.7.18.1.3 Test purpose

To verify that the ME informs the UICC that an Event: CSG Cell selection has occurred using the ENVELOPE (EVENT DOWNLOAD - CSG Cell selection) command when the ME detects a change in its current CSG cell selection status.

27.22.7.18.1.4 Method of test

27.22.7.18.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the E-USS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The E-USS transmits on three cells:

Network parameters of cell 1:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 01

- Broadcast information: Cell 3 is included in the neighbour list information.

Network parameters of cell 2:

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 02

- Home (e)NB Name HOME 02

Network parameters of cell 3:

- TAI (MCC/MNC/TAC): 246/081/0003.

- Access control: unrestricted.

- csg-Indication: FALSE

Network parameters of cell 4:

- TAI (MCC/MNC/TAC): 246/081/0004.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

- Broadcast information: Cell 3 is included in the neighbour list information.

- Home (e)NB Name HOME 04

Cell 1, Cell 2 and Cell 4 are initially disabled. Cell 3 is enabled.

The default E-UTRAN/EPC UICC, the default E-UTRAN parameters and the following parameters are used:

**EFUST (USIM Service Table)**

EF**UST** shall be configured as defined in 27.22.2B.1 with the exception that Service 86 "Allowed CSG Lists and corresponding indications" is available.

**EFACSGL (Allowed CSG Lists)**

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 01

1st CSG list 1st CSG HNB Name indication 01

1st CSG list 1st CSG CSG ID: 01 (27bit)

2nd CSG list 2nd CSG Type indication 01

2nd CSG list 2nd CSG HNB Name indication 01

2nd CSG list 2nd CSG CSG ID: 04 (27bit)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Byte: | B01 | B02 | B03 | B04 | B05 | B06 | B07 | B08 | B09 | B10 |
| Coding: | A0 | 15 | 80 | 03 | 42 | 16 | 80 | 81 | 06 | 01 |
|  | B11 | B12 | B13 | B14 | B15 | B16 | B17 | B18 | B19 | B20 |
|  | 01 | 00 | 00 | 00 | 3F | 81 | 06 | 01 | 01 | 00 |
|  | B21 | B22 | B23 |  |  |  |  |  |  |  |
|  | 00 | 00 | 9F |  |  |  |  |  |  |  |

All other records are empty.

**EFCSGT (CSG Type)**

Record 1:

Logically: Group ONE

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Byte: | B01 | B02 | B03 | B04 | B05 | B06 | B07 | B08 | B09 | B10 |
| Coding: | 89 | 13 | 80 | 00 | 47 | 00 | 72 | 00 | 6F | 00 |
|  | B11 | B12 | B13 | B14 | B15 | B16 | B17 | B18 | B19 | B20 |
|  | 75 | 00 | 70 | 00 | 20 | 00 | 4F | 00 | 4E | 00 |
|  | B21 | B22 | B23 | B24 | B25 | B26 | B27 | B28 | B29 | B30 |
|  | 45 | FF | FF | FF | FF | FF | FF | FF | FF | FF |

**EFHNBN (Home (e)NodeB Name)**

Record 1:

Logically: Home ONE

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Byte: | B01 | B02 | B03 | B04 | B05 | B06 | B07 | B08 | B09 | B10 |
| Coding: | 80 | 11 | 80 | 00 | 48 | 00 | 6F | 00 | 6D | 00 |
|  | B11 | B12 | B13 | B14 | B15 | B16 | B17 | B18 | B19 | B20 |
|  | 65 | 00 | 20 | 00 | 4F | 00 | 4E | 00 | 45 | FF |
|  | B21 | B22 | B23 | B24 | B25 | B26 | B27 | B28 | B29 | B30 |
|  | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |

27.22.7.18.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD - CSG Cell Selection event)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | ME | The ME is registered to cell 3 and in EMM\_IDLE | Cell 3 = macro cell |
| 2 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 3 | ME  UICC | FETCH |  |
| 4 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 5 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 6 | E-USS | Cell 2 is enabled |  |
| 7 | User ME | A manual CSG cell selection is performed. CSG ID=02 is selected. |  |
| 8 | E-USSME | *AttachReject* with rejection cause #25 (not authorized for this CSG) | No ENVELOPE command is sent. |
| 9 | E-USS | Cell 2 is disabled  Cell 1 is enabled |  |
| 10 | UserME | A manual CSG cell selection is performed. CSG ID=01 is selected. |  |
| 11 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CSG Cell selection 1.1.1A  OR  ENVELOPE: EVENT DOWNLOAD – CSG Cell selection 1.1.1B | Camping on CSG cell, CSG ID=01 |
| 12 | E-USS | Cell 1 is disabled |  |
| 13 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CSG Cell selection 1.1.2 | Leaving CSG cell with CSG ID=01.  Not camped on a CSG cell. |
| 14 | E-USS | Cell 4 is enabled |  |
| 15 | User ME | A manual CSG cell selection is performed. CSG ID=04 is selected. |  |
| 16 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CSG Cell selection 1.1.3A  OR  ENVELOPE: EVENT DOWNLOAD – CSG Cell selection 1.1.3B | Camping on CSG cell, CSG ID=04 |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: '15' CSG Cell selection Event

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 15 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD – CSG CELL SELECTION 1.1.1A

Logically:

Event list

Event 1: CSG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: E-UTRAN

CSG Cell selection status: Byte 1 = '01' (camped on a CSG or Hybrid cell of the Operator CSG list or Allowed CSG list), additional information not available

CSG id 01 (27 bit)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 14 | 19 | 01 | 15 | 82 | 02 | 83 | 81 | 3F | 01 | 08 |
|  | 55 | 02 | 01 | 00 | 56 | 04 | 00 | 00 | 00 | 3F |  |  |

EVENT DOWNLOAD – CSG CELL SELECTION 1.1.1B

Logically:

Event list

Event 1: CSG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: E-UTRAN

CSG Cell selection status: Byte 1 = '01' (camped on a CSG or Hybrid cell of the Operator CSG list or Allowed CSG list), additional information: result of a manual CSG cell selection.

CSG id 01 (27 bit)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 14 | 19 | 01 | 15 | 82 | 02 | 83 | 81 | 3F | 01 | 08 |
|  | 55 | 02 | 01 | 41 | 56 | 04 | 00 | 00 | 00 | 3F |  |  |

EVENT DOWNLOAD – CSG CELL SELECTION 1.1.2

Logically:

Event list

Event 1: CSG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: E-UTRAN

CSG Cell selection status: Byte 1 = '00' (Not camped on a CSG or Hybrid cell), additional information not available

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 19 | 01 | 15 | 82 | 02 | 83 | 81 | 3F | 01 | 08 |
|  | 55 | 02 | 00 | 00 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD – CSG CELL SELECTION 1.1.3A

Logically:

Event list

Event 1: CSG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: E-UTRAN

CSG Cell selection status: Byte 1 = '01' (camped on a CSG or Hybrid cell of the Operator CSG list or Allowed CSG list), additional information not available

CSG id 04 (27 bit)

HNB name "HOME 04"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 25 | 19 | 01 | 15 | 82 | 02 | 83 | 81 | 3F | 01 | 08 |
|  | 55 | 02 | 01 | 00 | 56 | 04 | 00 | 00 | 00 | 9F | 57 | 0F |
|  | 80 | 00 | 48 | 00 | 4F | 00 | 4D | 00 | 45 | 00 | 20 | 00 |
|  | 30 | 00 | 34 |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD – CSG CELL SELECTION 1.1.3B

Logically:

Event list

Event 1: CSG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: E-UTRAN

CSG Cell selection status: Byte 1 = '01' (camped on a CSG or Hybrid cell of the Operator CSG list or Allowed CSG list), additional information: result of a manual CSG cell selection.

CSG id 04 (27 bit)

HNB name "HOME 04"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 25 | 19 | 01 | 15 | 82 | 02 | 83 | 81 | 3F | 01 | 08 |
|  | 55 | 02 | 01 | 41 | 56 | 04 | 00 | 00 | 00 | 9F | 57 | 0F |
|  | 80 | 00 | 48 | 00 | 4F | 00 | 4D | 00 | 45 | 00 | 20 | 00 |
|  | 30 | 00 | 34 |  |  |  |  |  |  |  |  |  |

27.22.7.18.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.19 IMS registration event

It is expected that the IMS registration event will not be used seperately, but always in combination with the Incoming IMS Data Event and further features which are required for UICC access to IMS.

The IMS registration event is therefore tested in 27.22.4.27.7.1 and 27.22.7.20

#### 27.22.7.20 Incoming IMS data event

##### 27.22.7.20.1 Incoming IMS data (normal)

27.22.7.20.1.1 Definition and applicability

See clause 3.2.2.

27.22.7.20.1.2 Conformance requirement

The ME shall support:

- the EVENT Incoming IMS DATA as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 7.5, clause 8.7, clause 8.25, clause 8.110.

- the EVENT: IMS Registration as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 7.5, clause 8.7, clause 8.25, clause 8.111, clause 8.112.the EVENT: Data available as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 7.5, clause 8.7, clause 8.25, clause 8.56, clause 8.57.

- the Open Channel for IMS and Event Download – IMS Registration Event commands as defined in:

- TS 31.111[15] clauses 5.2, clauses 6.4.27 and 6.6.27, clause 8.6, clause 8.7, clause 8.55, clause 8.110

- TS 31.102 [14] clauses 4.2.8, 4.2.95

The ME shall support the EFUICCIARI reading procedure as defined in:

- TS 31.103 [35] clause 4.2.16

Additionally the ME shall be able to carry out the IMS registration procedure according to TS 34.229-1 [36], Annex C.2.

27.22.7.20.1.3 Test purpose

To verify that the ME informs the UICC that an Event: Incoming IMS data has occurred using the ENVELOPE (EVENT DOWNLOAD – Incoming IMS data) command when the ME received a SIP message for the card, including an UICC IARI.

27.22.7.20.1.4 Method of test

27.22.7.20.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the Network Simulator (NWS).

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The ME activates the required bearer, discovers P-CSCF and registers with the value from the ISIM to IMS services. The ME has registered the IARI associated with active applications intalled on the UICC, stored in EF\_UICCIARI on the ISIM.

The channel identifier value used for these tests is set to 1 as an example. This channel identifier is dependent on the ME's default channel identifier as declared in table A.2/27.

The E-UTRAN/EPC ISIM-UICC with the following execptions is used:

**EFIST (ISIM Service Table)**

EF**IST** shall be configured as defined in 27.22.2C.3.2 with the exception that Service 10 "Support of UICC access to IMS" is available.

**EFUICCIARI (UICC IARI list)**

Record 1:

Logically: urn:ur-7:3gpp-application.ims.iari.uicctest

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Byte: | B01 | B02 | B03 | B04 | B05 | B06 | B07 | B08 | B09 | B10 |
| Coding: | 80 | 2B | 75 | 72 | 6E | 3A | 75 | 72 | 2D | 37 |
|  | B11 | B12 | B13 | B14 | B15 | B16 | B17 | B18 | B19 | B20 |
|  | 3A | 33 | 67 | 70 | 70 | 2D | 61 | 70 | 70 | 6C |
|  | B21 | B22 | B23 | B24 | B25 | B26 | B27 | B28 | B29 | B30 |
|  | 69 | 63 | 61 | 74 | 69 | 6F | 6E | 2E | 69 | 6D |
|  | B31 | B32 | B33 | B34 | B35 | B36 | B37 | B38 | B39 | B40 |
|  | 73 | 2E | 69 | 61 | 72 | 69 | 2E | 75 | 69 | 63 |
|  | B41 | B42 | B43 | B44 | B45 | B46 | B47 | B48 | B49 | B50 |
|  | 63 | 74 | 65 | 73 | 74 | FF | FF | FF | FF | FF |

27.22.7.20.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD – Incoming IMS data, IMS Registration and Data available event, IARI list stored on the ISIM)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 | [As response to the TERMINAL PROFILE command] |
| 2 | ME  UICC | FETCH |  |
| 3 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 | [The ME will read the ISIM Service Table and the UICC IARI list on the ISIM before it will attempt the initial registration to the IMS network] |
| 5 | ME NWS  NWS  ME | ME attempts to register to IMS services with values derived from the ISIM and additionally registers the IARI from EFUICCIARI during the intial registration or subsequent registration to IMS services. | [Initial registration to the IMS network is performed according to TS 34.229-1 [36], Annex C.2] |
| 6 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – IMS registration 1.1.1 | [After the IARI "urn:ur-7:3gpp-application.ims.iari.uicctest" has been successfully registered during the intial or a subsequent SIP REGISTER message containing this IARI.  If the IARI "urn:ur-7:3gpp-application.ims.iari.uicctest" is not registered during the intial registration to the IMS network further Envelopes – Event Download – IMS Registration without the IARI might have been received. These shall be ignored by the USIM Simulator.] |
| 7 | NWS ME | IMS network sends SIP INVITE message with UICC IARI |  |
| 8 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – Incoming IMS data 1.1.1 |  |
| 9 | UICC → ME | PROACTIVE COMMAND PENDING: OPEN CHANNEL 1.1.1 |  |
| 10 | ME → UICC | FETCH |  |
| 11 | UICC → ME | PROACTIVE COMMAND: OPEN CHANNEL for IMS 1.1.1 |  |
| 12 | ME | Channel id, buffer assigned |  |
| 13 | ME → UICC | TERMINAL RESPONSE: OPEN CHANNEL for IMS 1.1.1 | [Command performed successfully] |
| 14 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – Data Available 1.1.1 |  |
| 15 | UICC  ME | PROACTIVE COMMAND PENDING: RECEIVE DATA 1.1.1 |  |
| 16 | ME  UICC | FETCH |  |
| 17 | UICC  ME | PROACTIVE COMMAND: RECEIVE DATA 1.1.1 |  |
| 18 | ME  UICC | TERMINAL RESPONSE: RECEIVE DATA 1.1.1 | Contains SIP message received in step 7 |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: IMS Registration

Event 2: Incoming IMS data Event

Event 3: Data available

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0E | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 03 | 17 | 18 | 09 |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD - IMS Registration 1.1.1

Logically:

Event list

Event 1: IMS Registration

Device identities

Source device: Network

Destination device: UICC

IMPU list: At least one IMPU containing "urn:ur-7:3gpp-application.ims.iari.uicctest"

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 17 | 82 | 02 | 83 | 81 | 77 | Note 2 | Note 3 |
| Note 1: The TLV length depends on the IMPU list content  Note 2: The IMPU TLV length depends on the IMPU list entries.  Note 3: The IMPU list shall contain the IMPU "urn:ur-7:3gpp-application.ims.iari.uicctest" and might contain further IMPUs | | | | | | | | | | | | |

ENVELOPE: EVENT DOWNLOAD - Data available 1.1.1

Logically:

Event list

Event: Data available

Device identities

Source device: ME

Destination device: UICC

Channel status

Channel status: Channel 1 open, link established

Channel Data Length

Channel data length: 200 Bytes available in Rx buffer

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0E | 99 | 01 | 09 | 82 | 02 | 82 | 81 | B8 | 02 | 81 |
|  | 00 | B7 | 01 | C8 |  |  |  |  |  |  |  |  |

PROACTIVE COMMAND: OPEN CHANNEL for IMS 1.1.1

Logically:

Command details

Command number: 01

Command type: OPEN CHANNEL

Command qualifier: 00 (RFU)

Device identities

Source device: UICC

Destination device: ME

Buffer

Buffer size: 1400

IARI urn:ur-7:3gpp-application.ims.iari.uicctest

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 3A | 81 | 03 | 01 | 40 | 00 | 82 | 02 | 81 | 82 | 39 |
|  | 02 | 05 | 78 | 76 | 2B | 75 | 72 | 6E | 3A | 75 | 72 | 2D |
|  | 37 | 3A | 33 | 67 | 70 | 70 | 2D | 61 | 70 | 70 | 6C | 69 |
|  | 63 | 61 | 74 | 69 | 6F | 6E | 2E | 69 | 6D | 73 | 2E | 69 |
|  | 61 | 72 | 69 | 2E | 75 | 69 | 63 | 63 | 74 | 65 | 73 | 74 |

TERMINAL RESPONSE: OPEN CHANNEL 1.1.1

Logically:

Command details

Command number: 1

Command type: OPEN CHANNEL

Command qualifier: 00 (RFU)

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel status Channel identifier 1, link established.

Buffer

Buffer size: 1400

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 40 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | 38 | 02 | 81 | 00 | 39 | 02 | 05 | 78 |  |  |  |  |

PROACTIVE COMMAND: RECEIVE DATA 1.1.1

Logically:

Command details

Command number: 1

Command type: RECEIVE DATA

Command qualifier: RFU

Device identities

Source device: UICC

Destination device: Channel 1

Channel Data Length

Channel Data Length: 200

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 42 | 00 | 82 | 02 | 81 | 21 | B7 |
|  | 01 | C8 |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: RECEIVE DATA 1.1.1

Logically:

Command details

Command number: 1

Command type: RECEIVE DATA

Command qualifier: RFU

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Channel Data: 200 Bytes of data, includes SIP message

Channel data length: 00

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 42 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |
|  | B6 | 81 | C8 | ab | cd | ef | .. | xy | B7 | 01 | 00 |  |

Note: The content of the channel data is not tested.

27.22.7.20.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.

#### 27.22.7.21 Data Connection Status Change event

##### 27.22.7.21.1 Definition and applicability

See clause 3.2.2.

##### 27.22.7.21.2 Conformance requirement

The ME shall support the EVENT: Data Connection Status Change event as defined in:

- TS 31.111 [15] clause 4.7, 4.12, 7.5.25, 8.25, 8.28, 8.137, 8.138, 8.139 and 8.142

##### 27.22.7.21.3 Test purpose

If the Data Connection Status Change event is part of the current event list (as set up by the last SET UP EVENT LIST command), then, upon detection by the ME of a change in the data connection status, the terminal shall inform the UICC that this event has occurred, by using the ENVELOPE (EVENT DOWNLOAD – Data Connection Status Change) command.

##### 27.22.7.21.4 Method of test

27.22.7.21.4.1 Initial conditions

The ME is connected to the USIM Simulator and a E-USS/NB-SS for sequence 1.1 and a NG-SS for sequence 1.2.

For sequence 1.1 the default E-UTRAN/EPC UICC the following parameters are used:

Network access name: TestGp.rs

User login: UserLog

User password: UserPwd

UICC/ME interface transport level

Transport format: TCP

Port number: 44444

Data destination address: 01.01.01.01 (as an example)

For sequence 1.2 the default NG-RAN UICC and the following parameters are used:

PDU session:

DNN: TestGp.rs

PDU Session Type: IPv4v6

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The E- UTRAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Identity value = 0001 (28 bits);

The NB-IoT parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 0001;

- E-UTRAN Cell Identity value = 0001 (28 bits);

The NG-RAN parameters of the system simulator are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 000001;

- NG-RAN Cell Identifier (NCI) = 0000000001 (36 bits);

The system simulator should accept connection requests for APN/DNN: TestGP.rs

27.22.7.21.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD – Data Connection Status Change event, E-UTRAN, Activate PDN and Deactivate PDN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME 🡪 UICC | FETCH |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | USER → ME | Set, configure and initiate an EPS PDN connection to APN "TestGp.rs" | The PDN connection shall be established as defined in 27.22.10.1, Seq 1.1 |
| 6 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD - Data Connection Status Change event 1.1.1 | [Data connection successful; i.e. accepted by the network and completed by the device] |
| 7 | E-USS/NB-SS 🡪 ME | DEACTIVATE EPS BEARER CONTEXT REQUEST | The DEACTIVATE EPS BEARER CONTEXT REQUEST message contains an ESM cause #26: insufficient resources |
| 8 | ME 🡪 E‑USS/NB-SS | DEACTIVATE EPS  BEARER CONTEXT ACCEPT |  |
| 9 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Data Connection Status Change event 1.1.2 | Data connection status: [Data connection dropped or deactivated] |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: Data Connection Status Change

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 1D |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: ME

Destination device: UICC

Result

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD - Data Connection Status Change 1.1.1

Logically:

Event list

Event 1: Data Connection Status Change

Device identities

Source device: Network

Destination device: UICC

Data connection status: Data connection successful; i.e. accepted by the network and completed by the device.

Data connection type: PDN connection

Transaction identifier: the Transaction identifier data object shall contain:

* TI value generated by the terminal to uniquely identify the PDP or PDN data connection
* TI flag is 0.

Date-Time and Time zone: Date and time set by the user if A.1/185 is supported by the ME

Location Information: Mobile Country Codes (MCC): 001

MNC: 01

TAC: 0001

ECI: 00000001

Access Technology: E-UTRAN

Location status: Normal service

Network Access Name: TestGp.rs

PDP/PDN type ME dependent

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 1D | 82 | 02 | 83 | 81 | 1D | 01 | 00 |
|  | 2A | 01 | 01 | 1C | Note 2 | Note 3 | 13 | 09 | 00 | F1 | 10 | 00 |
|  | 01 | 00 | 00 | 00 | 1F | 3F | 01 | 08 | 1B | 01 | 00 | C7 |
|  | 0A | 06 | 54 | 65 | 73 | 74 | 47 | 70 | 02 | 72 | 73 | 0B |
|  | Note 4 |  |  |  |  |  |  |  |  |  |  |  |
| Note 1: The length of the BER-TLV is present here.  Note 2: Transaction identifier length and data.  Note 3: If A.1/185 is supported by the ME, Date-Time and Time zone shall be provided.  Note 4: The PDN Type length and data. | | | | | | | | | | | | |

EVENT DOWNLOAD - Data Connection Status Change 1.1.2

Logically:

Event list

Event 1: Data Connection Status Change

Device identities

Source device: Network

Destination device: UICC

Data connection status: Data connection dropped or deactivated.

Data connection type: PDN connection

(E)SM cause: Insufficient resources

Transaction identifier: the Transaction identifier data object shall contain:

* TI value generated by the terminal to uniquely identify the PDP or PDN data connection
* TI flag is 0.

Date-Time and Time zone: Date and time set by the user if A.1/185 is supported by the ME

Location Information: MCC: 001

MNC: 01

TAC: 0001

ECI: 00000001

Access Technology: Not Checked

Location status: Normal service

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 1D | 82 | 02 | 83 | 81 | 1D | 01 | 02 |
|  | 2A | 01 | 01 | 1A | 01 | 1A | 1C | Note 2 | Note 3 | 13 | 09 | 00 |
|  | F1 | 10 | 00 | 01 | 00 | 00 | 00 | 1F | Note 4 | 1B | 01 | 00 |
| Note 1: The length of the BER-TLV is present here.  Note 2: Transaction identifier length and data.  Note 3: If A.1/185 is supported by the ME, Date-Time and Time zone shall be provided.  Note 4: Access Technology may be present, but not checked | | | | | | | | | | | | |

Expected Sequence 1.2 (EVENT DOWNLOAD – Data Connection Status Change event, NG-RAN, Activate PDU and Deactivate PDU)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | UICC 🡪 ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 2 | ME 🡪 UICC | FETCH |  |
| 3 | UICC 🡪 ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 4 | ME 🡪 UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 5 | USER 🡪 ME | Set, configure and initiate an PDU session with DNN "TestGp.rs" | The PDU session shall be established |
| 6 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD - Data Connection Status Change event 1.2.1 | [Data connection successful; i.e. accepted by the network and completed by the device] |
| 7 | NG-SS 🡪 ME | PDU SESSION RELEASE COMMAND | PDU SESSION RELEASE COMMAND message contains an (E/5G)SM cause #26: insufficient resources |
| 8 | ME 🡪 NG-SS | PDU SESSION RELEASE COMPLETE |  |
| 9 | ME 🡪 UICC | ENVELOPE: EVENT DOWNLOAD – Data Connection Status Change event 1.2.2 | [Data connection dropped or deactivated] |

EVENT DOWNLOAD - Data Connection Status Change 1.2.1

Logically:

Event list

Event 1: Data Connection Status Change

Device identities

Source device: Network

Destination device: UICC

Data connection status: Data connection successful; i.e. accepted by the network and completed by the device.

Data connection type: PDU connection

Transaction identifier: the Transaction identifier data object shall contain:

* TI value generated by the terminal to uniquely identify the PDP or PDN data connection
* TI flag is 0.

Date-Time and Time zone: Date and time set by the user if A.1/185 is supported by the ME

Location Information: Mobile Country Codes (MCC): 001

MNC: 01

TAC: 000001

NCI: 0000000001

Access Technology: 3GPP NR

Location status: Normal service

Network Access Name: TestGp.rs

PDP/PDN type ME dependent

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 1D | 82 | 02 | 83 | 81 | 1D | 01 | 00 |
|  | 2A | 01 | 02 | 1C | Note 2 | Note 3 | 13 | 0B | 00 | F1 | 10 | 00 |
|  | 00 | 01 | 00 | 00 | 00 | 00 | 1F | 3F | 01 | 0A | 1B | 01 |
|  | 00 | C7 | 0A | 06 | 54 | 65 | 73 | 74 | 47 | 70 | 02 | 72 |
|  | 73 | 0B | Note 4 |  |  |  |  |  |  |  |  |  |
| Note 1: The length of the BER-TLV is present here.  Note 2: Transaction identifier length and data.  Note 3: If A.1/185 is supported by the ME, Date-Time and Time zone shall be provided.  Note 4: The PDN Type length and data. | | | | | | | | | | | | |

EVENT DOWNLOAD - Data Connection Status Change 1.2.2

Logically:

Event list

Event 1: Data Connection Status Change

Device identities

Source device: Network

Destination device: UICC

Data connection status: Data connection dropped or deactivated.

Data connection type: PDU session

(E/5G)SM cause: Insufficient resources

Transaction identifier: the Transaction identifier data object shall contain:

* TI value generated by the terminal to uniquely identify the PDU data connection
* TI flag is 0.

Date-Time and Time zone: Date and time set by the user if A.1/185 is supported by the ME

Location Information: MCC: 001

MNC: 01

TAC: 000001

NCI: 0000000001

Location status: Normal service

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | Note 1 | 19 | 01 | 1D | 82 | 02 | 83 | 81 | 1D | 01 | 02 |
|  | 2A | 01 | 02 | 2E | 01 | 1A | 1C | Note 2 | Note 3 | 13 | 0B | 00 |
|  | F1 | 10 | 00 | 00 | 01 | 00 | 00 | 00 | 00 | 1F | 1B | 01 |
|  | 00 |  |  |  |  |  |  |  |  |  |  |  |
| Note 1: The length of the BER-TLV is present here.  Note 2: Transaction identifier length and data.  Note 3: If A.1/185 is supported by the ME, Date-Time and Time zone shall be provided. | | | | | | | | | | | | |

27.22.7.21.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1 to 1.2.

#### 27.22.7.22 CAG Cell Selection event

##### 27.22.7.22.1 CAG Cell Selection (normal)

###### 27.22.7.22.1.1 Definition and applicability

See clause 3.2.2.

###### 27.22.7.22.1.2 Conformance requirement

The ME shall support the EVENT: CAG Cell selection as defined in:

- TS 31.111 [15] clause 4.7, clause 5.2, clause 6.4.16, clause 6.8, clause 7.5, 7.5.26, clause 8.25, 8.147, 8.148, 8.149.

###### 27.22.7.22.1.3 Test purpose

To verify that the ME informs the UICC that an Event: CAG Cell selection has occurred using the ENVELOPE (EVENT DOWNLOAD – CAG Cell selection) command when the ME detects a change in its current CAG cell selection status.

###### 27.22.7.22.1.4 Method of test

27.22.7.22.1.4.1 Initial conditions

The ME is connected to the USIM Simulator and the NG-SS.

The ME shall be powered on and perform the PROFILE DOWNLOAD procedure.

The NG-SS configures three NR CAG cells with the following configuration:

Network parameters for cell 1:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- Tracking Area Code (TAC) = 000001;

with following parameters configured for NPN-Identity and corresponding HRNN in SIB1 and SIB 10 respectively:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- CAG ID: 00 00 00 01

- CAG Human-readable network name: ′CAG-00000001′

- Manual selection of the CAG-ID: allowed

Network parameters for cell 2:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- Tracking Area Code (TAC) = 000002;

with following parameters configured for NPN-Identity and corresponding HRNN in SIB1 and SIB 10 respectively:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- CAG ID: 00 00 00 02

- CAG Human-readable network name: ′CAG-00000002′

- Manual selection of the CAG-ID: allowed

Network parameters for cell 3:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- Tracking Area Code (TAC) = 000003;

with following parameters configured for NPN-Identity and corresponding HRNN in SIB1 and SIB 10 respectively:

- Mobile Country Code (MCC) = 244;

- Mobile Network Code (MNC) = 083;

- CAG ID: 00 00 00 03

- CAG Human-readable network name: ′CAG-00000003′

- Manual selection of the CAG-ID: not allowed

Cell 1 and Cell 2 are initially disabled. Cell 3 is enabled.

The NG-RAN UICC supporting CAG as defined in clause 27.22.2D.4 is used.

27.22.7.22.1.4.2 Procedure

Expected Sequence 1.1 (EVENT DOWNLOAD - CAG Cell Selection event)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | Message / Action | Comments |
| 1 | ME NG-SS | The ME is registered to Cell 3 and in 5GMM-IDLE | ME is in automatic network selection mode |
| 2 | UICC  ME | PROACTIVE COMMAND PENDING: SET UP EVENT LIST 1.1.1 |  |
| 3 | ME  UICC | FETCH |  |
| 4 | UICC  ME | PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1 |  |
| 5 | ME  UICC | TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1 |  |
| 6 | NG-SS | Cell 1 is enabled | ME is set to manual network selection mode |
| 7 | User ME | A manual CAG cell selection is performed. CAG ID=00000001 is selected. |  |
| 8 | ME  NG-SS | REGISTRATION REQUEST |  |
| 9 | NG-SS ME | REGISTRATION ACCEPT | 'CAG information list' shall not be provided in REGISTRATION ACCEPT message |
| 10 | ME  NG-SS | REGISTRATION COMPLETE |  |
| 11 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.1A  OR  ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.1B | Camping on CAG cell, CAG ID=00000001 |
| 12 | NG-SS | Cell 1 is disabled  Cell 2 is enabled |  |
| 13 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.2A  OR  ENVELOPE: EVENT DOWNLOAD  – CAG Cell selection 1.1.2B | Leaving CAG cell with CAG ID=00000001  Not camped on a CAG cell |
| 14 | UserME | A manual CAG cell selection is performed. CAG ID=00000002 is selected. |  |
| 15 | ME  NG-SS | REGISTRATION REQUEST |  |
| 16 | NG-SS ME | REGISTRATION ACCEPT | 'CAG information list' shall not be provided in REGISTRATION ACCEPT message |
| 17 | ME  NG-SS | REGISTRATION COMPLETE |  |
| 18 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.3A  OR  ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.3B | Camping on CAG cell, CAG ID=00000002 |
| 19 | NG-SS | Cell 2 is disabled |  |
| 20 | ME  UICC | ENVELOPE: EVENT DOWNLOAD – CAG Cell selection 1.1.2A OR  ENVELOPE: EVENT DOWNLOAD  – CAG Cell selection 1.1.2B | Leaving CAG cell with CAG ID=00000002  Not camped on a CAG cell. |

PROACTIVE COMMAND: SET UP EVENT LIST 1.1.1

Logically:

Command details

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities

Source device: UICC

Destination device: ME

Event list

Event 1: '1E' = CAG cell selection

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 0C | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 81 | 82 | 99 |
|  | 01 | 1E |  |  |  |  |  |  |  |  |  |  |

TERMINAL RESPONSE: SET UP EVENT LIST 1.1.1

Logically:

Command details:

Command number: 1

Command type: SET UP EVENT LIST

Command qualifier: '00'

Device identities :

Source device: ME

Destination device: UICC

Result:

General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 05 | 00 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.1A

Logically:

Event list:

Event 1: CAG Cell selection

Device identities:

Source device: Network

Destination device: UICC

Access Technology:

Technology: 3GPP NG-RAN

CAG Cell selection status:

Byte 1, general information: '01' (camped on a CAG cell)

Byte 2, additional information: '41' (Result of a manual CAG selection)

CAG information list:

One CAG ID for MCC = 244, MNC = 083

Ignore 'CAG only' bit = true

CAG ID: 00 00 00 01

CAG Human-readable network name list:

Only one CAG Human-readable network name in the list

CAG Human-readable network name: ′CAG-00000001′

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 29 | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 3F | 01 | 0A |
|  | 55 | 02 | 01 | 41 | 56 | 09 | 08 | 42 | 34 | 80 | 04 | 00 |
|  | 00 | 00 | 01 | 57 | 0E | 80 | 0C | 43 | 41 | 47 | 2D | 30 |
|  | 30 | 30 | 30 | 30 | 30 | 30 | 31 |  |  |  |  |  |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.1B

Logically:

Event list:

Event 1: CAG Cell selection

Device identities:

Source device: Network

Destination device: UICC

Access Technology:

Technology: 3GPP NG-RAN

CAG Cell selection status:

Byte 1, general information: '01' (camped on a CAG cell)

Byte 2, no additional information: '00'

CAG information list

One CAG IDs for MCC = 244, MNC = 083

Ignore 'CAG only' bit = true

CAG ID: 00 00 00 01

CAG Human-readable network name list:

Only one CAG Human-readable network name in the list

CAG Human-readable network name: ′CAG-00000001′

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 29 | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 3F | 01 | 0A |
|  | 55 | 02 | 01 | 00 | 56 | 09 | 08 | 42 | 34 | 80 | 04 | 00 |
|  | 00 | 00 | 01 | 57 | 0E | 80 | 0C | 43 | 41 | 47 | 2D | 30 |
|  | 30 | 30 | 30 | 30 | 30 | 30 | 31 |  |  |  |  |  |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.2A

Logically:

Event list:

Event 1: CAG Cell selection

Device identities:

Source device: Network

Destination device: UICC

CAG Cell selection status:

Byte 1, general information: '00' (not camped on a CAG cell)

Byte 2, no additional information: '00'

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0B | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 55 | 02 | 00 |
|  | 00 |  |  |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.2B

Logically:

Event list:

Event 1: CAG Cell selection

Device identities:

Source device: Network

Destination device: UICC

CAG Cell selection status:

Byte 1, general information: '00' (not camped on a CAG cell)

Byte 2, additional information: '41' (Result of a manual CAG selection)

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 0B | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 55 | 02 | 00 |
|  | 41 |  |  |  |  |  |  |  |  |  |  |  |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.3A

Logically:

Event list:

Event 1: CAG Cell selection

Device identities:

Source device: Network

Destination device: UICC

Access Technology:

Technology: 3GPP NG-RAN

CAG Cell selection status:

Byte 1, general information: '01' (camped on a CAG cell)

Byte 2, additional information: '41' (Result of a manual CAG selection)

CAG information list:

One CAG IDs for MCC = 244, MNC = 083

Ignore 'CAG only' bit = true

CAG ID: 00 00 00 02

CAG Human-readable network name list:

Only one CAG Human-readable network name in the list

CAG Human-readable network name: ′CAG-00000002′

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 29 | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 3F | 01 | 0A |
|  | 55 | 02 | 01 | 41 | 56 | 09 | 08 | 42 | 34 | 80 | 04 | 00 |
|  | 00 | 00 | 02 | 57 | 0E | 80 | 0C | 43 | 41 | 47 | 2D | 30 |
|  | 30 | 30 | 30 | 30 | 30 | 30 | 32 |  |  |  |  |  |

EVENT DOWNLOAD – CAG CELL SELECTION 1.1.3B

Logically:

Event list:

Event 1: CAG Cell selection

Device identities

Source device: Network

Destination device: UICC

Access Technology

Technology: 3GPP NG-RAN

CAG Cell selection status:

Byte 1, general information: '01' (camped on a CAG cell)

Byte 2, no additional information: '00'

CAG information list:

One CAG IDs for MCC = 244, MNC = 083

Ignore 'CAG only' bit = true

CAG ID: 00 00 00 02

CAG Human-readable network name list

Only one CAG Human-readable network name in the list

CAG Human-readable network name: ′CAG-00000002′

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D6 | 29 | 19 | 01 | 1E | 82 | 02 | 83 | 81 | 3F | 01 | 0A |
|  | 55 | 02 | 01 | 00 | 56 | 09 | 08 | 42 | 34 | 80 | 04 | 00 |
|  | 00 | 00 | 02 | 57 | 0E | 80 | 0C | 43 | 41 | 47 | 2D | 30 |
|  | 30 | 30 | 30 | 30 | 30 | 30 | 32 |  |  |  |  |  |

###### 27.22.7.22.1.5 Test requirement

The ME shall operate in the manner defined in expected sequence 1.1.