ETSI TS 131 121 V15.6.1 (2020-01)



Universal Mobile Telecommunications System (UMTS);

LTE;

5G;

UICC-terminal interface;
Universal Subscriber Identity Module (USIM)
application test specification
(3GPP TS 31.121 version 15.6.1 Release 15)



Reference RTS/TSGC-0631121vf61 Keywords 5G,LTE,UMTS

ETSI

650 Route des Lucioles F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C Association à but non lucratif enregistrée à la Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from: <u>http://www.etsi.org/standards-search</u>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services: https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2020. All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M[™] logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Legal Notice

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities. These shall be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the <u>ETSI Drafting Rules</u> (Verbal forms for the expression of provisions).

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.

Contents

Intellec	ctual Property Rights	2
Legal N	Notice	2
Modal	verbs terminology	2
Forewo	ord	22
Introdu	ection	22
1 5	Scope	23
2 I	References	23
3 I	Definitions, symbols, abbreviations and coding	25
3.1	Definitions	
3.2	Symbols	
3.3	Abbreviations	
3.4	Coding Conventions.	
3.5	Generic procedures for E-UTRAN/UTRAN/GERAN/IMS/NB-IoT/5G-NR	
3.6	Applicability	
3.6.1	Applicability of the present document	
3.6.2	Applicability of the present document Applicability to terminal equipment	
3.6.3	11 , 1	
	Applicability of the individual tests	
3.7 3.8	Table of optional features	
4 I	Default Values	
4.1		
4.1.1	Definition of default values for USIM-Terminal interface testing (Default UICC)	
	Values of the EF's (Default UICC)	
4.1.1.1	EF _{IMSI} (IMSI)	
4.1.1.2	EF _{AD} (Administrative Data)	
4.1.1.3	EF _{LOCI} (Location Information)	
4.1.1.4	EF _{Keys} (Ciphering and Integrity Keys)	
4.1.1.5	EF _{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)	
4.1.1.6	EF _{ACC} (Access Control Class)	
4.1.1.7	EF _{FPLMN} (Forbidden PLMNs)	
4.1.1.8	EF _{UST} (USIM Service Table)	
4.1.1.9	EF _{EST} (Enable Service Table)	
4.1.1.10		
4.1.1.11	EF _{PLMNwACT} (User Controlled PLMN Selector with Access Technology)	68
4.1.1.12	EF _{OPLMNwACT} (Operator Controlled PLMN Selector with Access Technology)	69
4.1.1.13	Void	69
4.1.1.14	PIN	69
4.1.1.15	FIN2	70
4.1.1.16	Unblock PIN	70
4.1.1.17	Unblock PIN2	70
4.1.1.18	Other Values of the USIM	70
4.1.1.19	EF _{PSLOCI} (Packet Switch Location Information)	70
4.1.1.20		
4.1.1.21		
4.2	Definition of FDN UICC	
4.2.1	Values of the EF's (FDN UICC)	
4.2.1.1	EF _{UST} (USIM Service Table)	
4.2.1.2	EF _{EST} (Enable Service Table)	
4.2.1.3	EF _{EDN} (Fixed Dialling Numbers)	
4.2.1.4	EF _{ECC} (Emergency Call Codes)	
4.2.1.4	Other Values of the USIM	
4.3	Void	
4.4	Definition of E-UTRAN/EPC UICC	
4.4.1	EF _{UST} (USIM Service Table)	73

4.4.2	EF _{EPSLOCI} (EPS Information)	
4.4.3	EF _{PLMNwACT} (User Controlled PLMN Selector with Access Technology)	73
4.4.4	EF _{OPLMNwACT} (Operator Controlled PLMN Selector with Access Technology)	
4.4.5	EF _{ACSGL} (Allowed CSG Lists)	
4.4.6	EF _{CSGT} (CSG Type)	
4.4.7	EF _{HNBN} (Home (e)NodeB Name)	
4.4.8	EF _{EPSNSC} (EPS NAS Security Context)	
4.5	Definition of E-UTRAN/EPC ISIM-UICC	
4.5.1	Applications on the E-UTRAN/EPC ISIM-UICC	
4.5.2	Default USIM values on E-UTRAN/EPC ISIM-UICC	
4.5.3	Default ISIM values on E-UTRAN/EPC ISIM-UICC	
4.5.3.1	EF _{AD} (Administrative Data)	
4.5.3.2	EF _{IST} (ISIM Service Table)	
4.5.3.3	EF _{IMPI} (IMS private user identity)	
4.5.3.4	EF _{DOMAIN} (Home Network Domain Name)	
4.5.3.5	EF _{IMPU} (IMS public user identity)	
4.5.3.6	EF _{P-CSCF} (P-CSCF ADDRESS)	
4.5.3.7	EF _{SMS} (Short Message Service)	
4.5.3.8	EF _{SMSR} (Short message status reports)	
4.5.3.9	EF _{SMSP} (Short message service parameters)	
4.5.3.10	EF _{SMSS} (SMS Status)	
4.5.4	Default values at DF_TELECOM	
4.5.4.1	EF _{PSISMSC} (Public Service Identity of the SM-SC)	
4.6	EF _{UST} (USIM Service Table)	
4.6.1	EF _{UST} (USIM Service Table) EF _{AD} (Administrative Data)	
4.6.2 4.6.3	EF _{AD} (Administrative Data) EF _{OCSGL} (Operator CSG Lists)	
4.6.3 4.6.4	EF _{OCSGL} (Operator CSG Lists) EF _{OCSGT} (Operator CSG Type)	
4.6.4 4.6.5	EF _{OCSGT} (Operator CSG Type)	
4.0.3 4.7.1	Values of the EFs	
4.7.1.1	EF _{UST} (USIM Service Table)	
4.7.1.2	EF _{NASCONFIG} (Non Access Stratum Configuration)	
4.9.1	EF _{UST} (USIM Service Table)	
4.9.2	EF _{IMSI} (IMSI)	
4.9.3	EF _{5GS3GPPLOCI} (5GS 3GPP location information)	
4.9.4	EF _{SUCI_Calc_Info} (Subscription Concealed Identifier Calculation Information EF)	
4.9.5	EF _{Routing} Indicator (Routing Indicator EF)	
	ubscription related tests	
5.1	IMSI / TMSI handling	96
5.1.1	UE identification by short IMSI	
5.1.1.1	Definition and applicability	
5.1.1.2	Conformance requirement	
5.1.1.3	Test purpose	
5.1.1.4	Method of test	
5.1.1.4.1	Initial conditions	
5.1.1.4.2		
5.1.1.5	Acceptance criteria	
5.1.2	UE identification by short IMSI using a 2 digit MNC	
5.1.2.1	Definition and applicability	
5.1.2.2	Conformance requirement.	
5.1.2.3	Test purpose	
5.1.2.4	Method of test	
5.1.2.4.1 5.1.2.4.2	Initial conditions	
5.1.2.4.2		
5.1.2.5 5.1.3	Acceptance criteriaUE identification by "short" TMSI	
5.1.3 5.1.3.1	Definition and applicability	
5.1.3.1	Conformance requirement	
5.1.3.2	Test purpose	
5.1.3.3 5.1.3.4	Method of test	
5.1.3.4	Initial conditions	100 101

5.1.3.4.2	Procedure	100
5.1.3.5	Acceptance criteria	101
5.1.4	UE identification by "long" TMSI	101
5.1.4.1	Definition and applicability	101
5.1.4.2	Conformance requirement	101
5.1.4.3	Test purpose	101
5.1.4.4	Method of test	101
5.1.4.4.1	Initial conditions	101
5.1.4.4.2	Procedure	102
5.1.4.5	Acceptance criteria	
5.1.5	UE identification by long IMSI, TMSI updating and key set identifier assignment	102
5.1.5.1	Definition and applicability	102
5.1.5.2	Conformance requirement	
5.1.5.3	Test purpose	
5.1.5.4	Method of test	
5.1.5.4.1	Initial conditions	
5.1.5.4.2	Procedure	
5.1.5.5	Acceptance criteria	
5.1.6	UE identification by short IMSI when accessing E-UTRAN/EPC	
5.1.6.1	Definition and applicability	
5.1.6.2	Conformance requirement	
5.1.6.3	Test purpose	
5.1.6.4	Method of test	
5.1.6.4.1 5.1.6.4.2	Initial conditions	
5.1.6.4.2	Procedure	
5.1.6.5 5.1.7	Acceptance criteria UE identification by short IMSI using a 2 digit MNC when accessing E-UTRAN/EPC	
5.1.7 5.1.7.1	Definition and applicability	
5.1.7.1	Conformance requirement	
5.1.7.3	Test purpose	
5.1.7.4	Method of test	
5.1.7.4.1	Initial conditions	
5.1.7.4.2	Procedure	
5.1.7.5	Acceptance criteria	
5.1.8	UE identification after changed IMSI with service "EMM Information" not available	
5.1.8.2	Conformance requirement	108
5.1.8.3	Test purpose	109
5.1.8.4	Method of test	109
5.1.8.4.1	Initial conditions	
5.1.8.4.2	Procedure	
5.1.8.5	Acceptance criteria	
5.1.9	UE identification by GUTI when using USIM with service "EMM Information" not available	
5.1.9.2	Conformance requirement	
5.1.9.3	Test purpose	
5.1.9.4	Method of test	
5.1.9.4.1	Initial conditions	
5.1.9.4.2	Procedure	
5.1.9.5	Acceptance criteria	
5.1.10	UE identification by GUTI when using USIM with service "EMM Information" available	
5.1.10.1	Definition and applicability	
5.1.10.2	Conformance requirement	
5.1.10.3 5.1.10.4	Test purpose	
5.1.10.4 5.1.10.4.1	Initial conditions	
5.1.10.4.1	Procedure Procedure	
5.1.10.4.2	Acceptance criteria	
5.1.10.5	Access Control handling	
5.2.1	Access Control information handling	
5.2.1.1	Definition and applicability	
5.2.1.2	Conformance requirement	
5.2.1.3	Test purpose	
5214	Mathod of test	11/

5.2.1.4.1	Initial conditions	
5.2.1.4.2	Coding details	114
5.2.1.4.3	Procedure	115
5.2.1.5	Acceptance criteria	115
5.2.2	Access Control information handling for E-UTRAN/EPC	127
5.2.2.1	Definition and applicability	127
5.2.2.2	Conformance requirement	127
5.2.2.3	Test purpose	127
5.2.2.4	Method of test	
5.2.2.4.1	Initial conditions	
5.2.2.4.2	Coding details	
5.2.2.4.3	Procedure	
5.2.2.5	Acceptance criteria	
5.3	Handling subscription identifier privacy for 5G	
5.3.1	SUCI calculation by ME using null scheme	
5.3.1.1	Definition and applicability	
5.3.1.2	Conformance requirement.	
5.3.1.3	Test purpose	
5.3.1.4	Method of test	
5.3.1.4.1	Initial conditions	
5.3.1.4.1	Procedure Procedure	
5.3.1.5	Acceptance criteria	
5.3.2	SUCI calculation by ME using Profile B	
5.3.2.1	Definition and applicability	
5.3.2.2	Conformance requirement	
5.3.2.3	Test purpose	
5.3.2.4	Method of test	
5.3.2.4.1	Initial conditions	
5.3.2.4.2	Procedure	
5.3.2.5	Acceptance criteria	
5.3.3	UE identification by SUCI during initial registration – SUCI calculation by USIM	
5.3.3.1	Definition and applicability	157
5.3.3.2	Conformance requirement	157
5.3.3.3	Test purpose	157
5.3.3.4	Method of test	158
5.3.3.4.1	Initial conditions	158
5.3.3.4.2	Procedure	159
5.3.3.5	Acceptance criteria	
5.3.4	UE identification by SUCI in response to IDENTITY REQUEST message	
5.3.4.1	Definition and applicability	
5.3.4.2	Conformance requirement	
5.3.4.3	Test purpose	
5.3.4.4	Method of test	
5.3.4.4.1	Initial conditions	
5.3.4.4.2	Procedure	
5.3.4.5	Acceptance criteria	
5.3.5	UE identification by SUCI in response to IDENTITY REQUEST message with T3519 timer expiry	
5.3.5.1	Definition and applicability	
5.3.5.1		
	Conformance requirement	
5.3.5.3	Test purpose	
5.3.5.4	Method of test	
5.3.5.4.1	Initial conditions	
5.3.5.4.2	Procedure	
5.3.5.5	Acceptance criteria	164
5.3.6	UE identification by SUCI in response to IDENTITY REQUEST message and AUTHENTICATION REJECT	164
5.3.6.1	Definition and applicability	
5.3.6.2	Conformance requirement.	
5.3.6.2	Test purpose	
5.3.6.4	Method of test	
5.3.6.4.1	Initial conditions	
5.3.6.4.1	Procedure Procedure	
J.J.0.4.2	r ioceane	103

5.3.6.5	Acceptance criteria	166
5.3.7	SUCI calculation by the ME using null scheme – missing parameters for subscription identifier	
	privacy support by the USIM	
5.3.7.1	Definition and applicability	
5.3.7.2	Conformance requirement	
5.3.7.3	Test purpose	
5.3.7.4	Method of test	
5.3.7.4.1	Initial conditions	
5.3.7.4.2	Procedure	
5.3.7.5	Acceptance criteria	
5.3.8	UE identification by 5G-GUTI – Last Registered TAI stored on USIM	
5.3.8.1	Definition and applicability	
5.3.8.2	Conformance requirement	
5.3.8.3	Test purpose	
5.3.8.4	Method of test	
5.3.8.4.1	Initial conditions	
5.3.8.4.2	Procedure	
5.3.8.5	Acceptance criteria	
5.3.9	UE identification by 5G-GUTI – Last Registered TAI stored by ME	
5.3.9.1	Definition and applicability	
5.3.9.3	Test purpose	
5.3.9.4	Method of test	
5.3.9.4.1	Initial conditions	
5.3.9.4.2	Procedure	
5.3.9.5	Acceptance criteria	
5.3.10	UE identification after SUPI is changed	
5.3.10.1	Definition and applicability	
5.3.10.2	Conformance requirement	
5.3.10.3	Test purpose	
5.3.10.4	Method of test	
5.3.10.4.1		
5.3.10.4.2		
5.3.10.5	Acceptance criteria	
5.3.11	SUCI calculation by ME using Profile A	
5.3.11.1	Definition and applicability	
5.3.11.2	Conformance requirement	
5.3.11.3	Test purpose	
5.3.11.4	Method of test	
5.3.11.4.1		
5.3.11.4.2		
5.3.11.5	Acceptance criteria	
5.4	Unified Access Control information handling for 5G-NR	
5.4.1	Unified Access Control – Access identity 0, no access identities indicated by USIM	
5.4.1.1	Definition and applicability	
5.4.1.2	Conformance requirement	
5.4.1.3	Test purpose	
5.4.1.4	Method of test	
5.4.1.4.1	Initial conditions	
5.4.1.4.2	Procedure	
5.4.1.4.3	Acceptance criteria	
5.4.2	Unified Access Control – Access Identity 1 – MPS indicated by USIM	
5.4.2.1	Definition and applicability	
5.4.2.2	Conformance requirement.	
5.4.2.3	Test purpose	
5.4.2.4	Method of test	
5.4.2.4.1	Initial conditions	
5.4.2.4.2	Procedure	
5.4.2.4.3	Acceptance criteria	
5.4.3 5.4.4	FFS	
5.4.4	FFS	
	Unified Access Control – Access Identity 2 – MCS indicated by USIM	
5.4.5.1	Definition and applicability	181

5.4.5.2	Conformance requirement	
5.4.5.3	Test purpose	182
5.4.5.4	Method of test	183
5.4.5.4.1		
5.4.5.4.2		
5.4.5.4.3	1	
5.4.6	FFS	
5.4.7	FFS	
5.4.8	Unified Access Control – Access Identities 11 and 15 indicated by USIM	
5.4.8.1	Definition and applicability	
5.4.8.2	Conformance requirement	
5.4.8.3	Test purpose	
5.4.8.4	Method of test	
5.4.8.4.1		
5.4.8.4.2		
5.4.8.4.3		
5.4.9	Unified Access Control – Access Identities 12, 13 and 14 indicated by USIM	
5.4.9.1	Definition and applicability	
5.4.9.2	Conformance requirement	
5.4.9.3	Test purpose	
5.4.9.4	Method of test	
5.4.9.4.1 5.4.9.4.2	Initial conditions	
5.4.9.4.2		
5.4.10	FFS	
5.4.11	FFS	
	ecurity related Tests	
6.1	PIN handling	
6.1.1	Entry of PIN	
6.1.1.1	Definition and applicability	
6.1.1.2	Conformance requirement	
6.1.1.3	Test purpose	
6.1.1.4 6.1.1.4.1	Method of test	
6.1.1.4.1	1111141 40114110115	
6.1.1.4.2	ProcedureAcceptance criteria	
6.1.2	Change of PIN	
6.1.2.1	Definition and applicability	
6.1.2.2	Conformance requirement	
6.1.2.3	Test purpose	
6.1.2.4	Method of test	
6.1.2.4.1	Initial conditions	
6.1.2.4.2		
6.1.2.5	Acceptance criteria	
6.1.3	Unblock PIN	
6.1.3.1	Definition and applicability	
6.1.3.2	Conformance requirement	
6.1.3.3	Test purpose	197
6.1.3.4	Method of test	
6.1.3.4.1	Initial conditions	
6.1.3.4.2		
6.1.3.5	Acceptance criteria	
6.1.4	Entry of PIN2	
6.1.4.1	Definition and applicability	
6.1.4.2	Conformance requirement	
6.1.4.3	Test purpose	
6.1.4.4	Method of test	
6.1.4.4.1 6.1.4.4.2	Initial conditions	
6.1.4.4.2	Procedure	
6.1.4.5	Change of PIN2	
U.1.J	CHRIST VI 1 11 12	

6.1.5.1	Definition and applicability	
6.1.5.2	Conformance requirement	199
6.1.5.3	Test purpose	199
6.1.5.4	Method of test	199
6.1.5.4.1	Initial conditions	199
6.1.5.4.2	Procedure	200
6.1.5.5	Acceptance criteria	200
6.1.6	Unblock PIN2	200
6.1.6.1	Definition and applicability	
6.1.6.2	Conformance requirement	
6.1.6.3	Test purpose	
6.1.6.4	Method of test	
6.1.6.4.1	Initial conditions	
6.1.6.4.2	Procedure	
6.1.6.5	Acceptance criterias	
6.1.7	Replacement of PIN	
6.1.7.1	Definition and applicability	
6.1.7.2	Conformance requirement	
6.1.7.3	Test purpose	
6.1.7.4	Method of test	
6.1.7.4.1		
	Initial conditions	
6.1.7.4.2	Procedure	
6.1.7.5	Acceptance criteria	
6.1.8	Change of Universal PIN	
6.1.8.1	Definition and applicability	
6.1.8.2	Conformance requirement	
6.1.8.3	Test purpose	
6.1.8.4	Method of test	
6.1.8.4.1	Initial conditions	
6.1.8.4.2	Procedure	
6.1.8.5	Acceptance criteria	
6.1.9	Unblock Universal PIN	204
6.1.9.1	Definition and applicability	204
6.1.9.2	Conformance requirement	204
6.1.9.3	Test purpose	204
6.1.9.4	Method of test	204
6.1.9.4.1	Initial conditions	204
6.1.9.4.2	Procedure	204
6.1.9.5	Acceptance criteria	
6.1.10	Entry of PIN on multi-verification capable UICCs	
6.1.10.1	Definition and applicability	
6.1.10.2	Conformance requirement	
6.1.10.3	Test purpose	
6.1.10.4	Method of test	
6.1.10.4.1	Initial conditions	
6.1.10.4.2	Procedure	
6.1.10.4.2	Acceptance criteria	
6.1.11	Change of PIN on multi-verification capable UICCs	
6.1.11 6.1.11.1	•	
	Definition and applicability	
6.1.11.2	Conformance requirement	
6.1.11.3	Test purpose	
6.1.11.4	Method of test	
6.1.11.4.1	Initial conditions	
6.1.11.4.2	Procedure	
6.1.11.5	Acceptance criteria	
6.1.12	Unblock PIN on multi-verification capable UICCs	
6.1.12.1	Definition and applicability	
6.1.12.2	Conformance requirement	208
6.1.12.3	Test purpose	208
6.1.12.4	Method of test	208
6.1.12.4.1	Initial conditions	208
6.1.12.4.2	Procedure	

6.1.12.5	Acceptance criteria	
6.1.13	Entry of PIN2 on multi-verification capable UICCs	210
6.1.13.1	Definition and applicability	210
6.1.13.2	Conformance requirement	210
6.1.13.3	Test purpose	210
6.1.13.4	Method of test	210
6.1.13.4.1	Initial conditions	210
6.1.13.4.2	Procedure	211
6.1.13.5	Acceptance criteria	211
6.1.14	Change of PIN2 on multi-verification capable UICCs	
6.1.14.1	Definition and applicability	
6.1.14.2	Conformance requirement	
6.1.14.3	Test purpose	
6.1.14.4	Method of test	
6.1.14.4.1	Initial conditions	
6.1.14.4.2	Procedure	
6.1.14.5	Acceptance criteria	
6.1.15	Unblock PIN2 on multi-verification capable UICCs	
6.1.15.1	Definition and applicability	
6.1.15.2	Conformance requirement	
6.1.15.3	Test purpose	
6.1.15.4	Method of test	
6.1.15.4.1	Initial conditions	
6.1.15.4.2	Procedure	
6.1.15.5	Acceptance criterias	
6.1.16	Replacement of PIN with key reference "07"	
6.1.16.1	Definition and applicability	
6.1.16.2	Conformance requirement.	
6.1.16.3	Test purpose	
6.1.16.4	Method of test	
6.1.16.4.1	Initial conditions	
6.1.16.4.2	Procedure	
6.1.16.5	Acceptance criteria	
	Fixed Dialling Numbers (FDN) handling	
6.2.1	Terminal and USIM with FDN enabled, EF _{ADN} readable and updateable	
6.2.1.1	Definition and applicability	
6.2.1.1		
6.2.1.3	Conformance requirement	
6.2.1.4	Test purpose	
	Method of test	
6.2.1.4.1 6.2.1.4.2	Initial conditions	
	Procedure	
6.2.1.5	Acceptance criteria	
6.2.2	Terminal and USIM with FDN disabled	
6.2.2.1	Definition and applicability	
6.2.2.2	Conformance requirement	
6.2.2.3	Test purpose	
6.2.2.4	Method of test	
6.2.2.4.1	Initial conditions	
6.2.2.4.2	Procedure	
6.2.2.5	Acceptance criteria	
6.2.3	Enabling, disabling and updating of FDN	
6.2.3.1	Definition and applicability	
6.2.3.2	Conformance requirement	
6.2.3.3	Test purpose	
6.2.3.4	Method of test	
6.2.3.4.1	Initial conditions	
6.2.3.4.2	Procedure	
6.2.3.5	Acceptance criteria	
6.2.4	Terminal and USIM with FDN enabled, EF _{ADN} readable and updateable (Rel-4 and onwards)	
6.2.4.1	Definition and applicability	222
6.2.4.2 6.2.4.3	Conformance requirement Test purpose	222

6.2.4.4	Method of test	223
6.2.4.4.1	I Initial conditions	223
6.2.4.4.2	Procedure	223
6.2.4.5	Acceptance criteria	224
6.3	Void	224
6.4	Advice of charge (AoC) handling	224
6.4.1	AoC not supported by USIM	224
6.4.1.1	Definition and applicability	224
6.4.1.2	Conformance requirement	224
6.4.1.3	Test purpose	
6.4.1.4	Method of test	
6.4.1.4.1	I Initial conditions	225
6.4.1.4.2	Procedure	225
6.4.1.5	Acceptance criteria	226
6.4.2	Maximum frequency of ACM updating	226
6.4.2.1	Definition and applicability	
6.4.2.2	Conformance requirement	
6.4.2.3	Test purpose	226
6.4.2.4	Method of test	
6.4.2.4.1	I Initial conditions	226
6.4.2.4.2	2 Procedure	227
6.4.2.5	Acceptance criteria	
6.4.3	Call terminated when ACM greater than ACMmax	
6.4.3.1	Definition and applicability	229
6.4.3.2	Conformance requirement	229
6.4.3.3	Test purpose	229
6.4.3.4	Method of test	
6.4.3.4.1	I Initial conditions	230
6.4.3.4.2	Procedure	230
6.4.3.5	Acceptance criteria	232
6.4.4	Response codes of increase command of ACM	232
6.4.4.1	Definition and applicability	232
6.4.4.2	Conformance requirement	233
6.4.4.3	Test purpose	233
6.4.4.4	Method of test	233
6.4.4.4.1		
6.4.4.4.2	Procedure Procedure	234
6.4.4.5	Acceptance criteria	236
7 F	PLMN related tests	237
7.1 7.1.1	FPLMN handlingAdding FPLMN to the Forbidden PLMN list	
7.1.1 7.1.1.1	Definition and applicability	
7.1.1.1		
7.1.1.2	Conformance requirement Test purpose	
7.1.1.3	Method of test	
7.1.1. 4 7.1.1.4.1		
7.1.1.4.2		
7.1.1.5	Acceptance criteria	
7.1.2	UE updating forbidden PLMNs	
7.1.2.1	Definition and applicability	
7.1.2.2	Conformance requirement	
7.1.2.3	Test purpose	
7.1.2.3	Method of test	
7.1.2.4.1		
7.1.2.4.2		
7.1.2.5	Acceptance criteria	
7.1.2.3	UE deleting forbidden PLMNs	
7.1.3.1	Definition and applicability	
7.1.3.1	Conformance requirement	
7.1.3.2	Test purpose	
7.1.3.3	Method of test	250

7.1.3.4.1	Initial conditions	250
7.1.3.4.2	Procedure	
7.1.3.5	Acceptance criteria	
7.1.4	Adding FPLMN to the forbidden PLMN list when accessing E-UTRAN	
7.1.4.1	Definition and applicability	
7.1.4.2	Conformance requirement	
7.1.4.3	Test purpose	
7.1.4.4	Method of test	
7.1.4.4.1	Initial conditions	
7.1.4.4.2	Procedure	
7.1.4.5	Acceptance criteria	
7.1.5	UE updating forbidden PLMNs when accessing E-UTRAN	
7.1.5.1	Definition and applicability	
7.1.5.2	Conformance requirement	
7.1.5.3	Test purpose	
7.1.5.4	Method of test	
7.1.5.4.1	Initial conditions	
7.1.5.4.2	Procedure	
7.1.5.1.2	Acceptance criteria	
7.1.6	UE deleting forbidden PLMNs when accessing E-UTRAN	
7.1.6.1	Definition and applicability	
7.1.6.2	Conformance requirement.	
7.1.6.2	Test purpose	
7.1.6.4	Method of test	
7.1.6.4.1	Initial conditions	
7.1.6.4.1	Procedure	
7.1.6.4.2	Acceptance criteria	
7.1.7	Updating the Forbidden PLMN list after receiving non-integrity protected reject message – UTRAN.	
7.1.7.1 7.1.7.2	Definition and applicability	
	Conformance requirement.	
7.1.7.3	Test purpose	
7.1.7.4	Method of test	
7.1.7.4.1	Initial conditions	
7.1.7.4.2	Procedure	
7.1.7.5	Acceptance criteria.	201
7.1.8	Updating the Forbidden PLMN list after receiving non-integrity protected reject message – E-	261
7101	UTRAN	
7.1.8.1	Definition and applicability	
7.1.8.2	Conformance requirement	
7.1.8.3	Test purpose	
7.1.8.4	Method of test	
7.1.8.4.1	Initial conditions	
7.1.8.4.2	Procedure	
7.1.8.5	Acceptance criteria	
7.2	User controlled PLMN selector handling	
7.2.1	UE updating the User controlled PLMN selector list	
7.2.1.1	Definition and applicability	
7.2.1.2	Conformance requirement	
7.2.1.3	Test purpose	
7.2.1.4	Method of test	
7.2.1.4.1	Initial conditions	
7.2.1.4.2	Procedure	
7.2.1.5	Acceptance criteria	264
7.2.2	UE recognising the priority order of the User controlled PLMN selector list with the same access	
	technology	
7.2.2.1	Definition and applicability	
7.2.2.2	Conformance requirement	
7.2.2.3	Test purpose	265
7.2.2.4	Method of test	
7.2.2.4.1	Initial conditions	265
7.2.2.4.2	Procedure	
7.2.2.5	Acceptance criteria	268

7.2.3	UE recognising the priority order of the User controlled PLMN selector list using an ACT	2.00
	preference.	
7.2.3.1	Definition and applicability	
7.2.3.2	Conformance requirement	
7.2.3.3	Test purpose	
7.2.3.4	Method of test	
7.2.3.4.1	Initial conditions	
7.2.3.4.2	Procedure	
7.2.3.5	Acceptance criteria	270
7.2.4	Void	270
7.2.5	UE updating the User controlled PLMN selector list for E-UTRAN	270
7.2.5.1	Definition and applicability	270
7.2.5.2	Conformance requirement	
7.2.5.3	Test purpose	271
7.2.5.4	Method of test	
7.2.5.4.1	Initial conditions	
7.2.5.4.2	Procedure	
7.2.5.5	Acceptance criteria	
7.2.6	UE recognising the priority order of the User controlled PLMN selector list using an ACT	
	preference- UTRAN/E-UTRAN	272
7.2.6.1	Definition and applicability	
7.2.6.2	Conformance requirement	
7.2.6.3	Test purpose	
7.2.6.4	Method of test	
7.2.6.4.1	Initial conditions	
7.2.6.4.1	Procedure	
7.2.6.4.2		
	Acceptance criteria	213
7.2.7	UE recognising the priority order of the User controlled PLMN selector list using an ACT	277
7071	preference- GSM/E-UTRAN	
7.2.7.1	Definition and applicability	
7.2.7.2	Conformance requirement	
7.2.7.3	Test purpose	
7.2.7.4	Method of test	
7.2.7.4.1	Initial conditions	
7.2.7.4.2	Procedure	
7.2.7.5	Acceptance criteria	
7.3	Operator controlled PLMN selector handling	
7.3.1	UE recognising the priority order of the Operator controlled PLMN selector list	
7.3.1.1	Definition and applicability	
7.3.1.2	Conformance requirement	280
7.3.1.3	Test purpose	280
7.3.1.4	Method of test	280
7.3.1.4.1	Initial conditions	280
7.3.1.4.2	Procedure	282
7.3.1.5	Acceptance criteria	283
7.3.2	UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.	
7.3.2.1	Definition and applicability	
7.3.2.2	Conformance requirement	
7.3.2.3	Test purpose	
7.3.2.4	Method of test	
7.3.2.4.1	Initial conditions	
7.3.2.4.1	Procedure	
7.3.2.4.2	Acceptance criteria	
7.3.2.3 7.3.3	UE recognising the priority order of the Operator controlled PLMN selector list when accessing E-	401
	UTRAN	288
7.3.3.1	Definition and applicability	288
7.3.3.2	Conformance requirement	
7.3.3.3	Test purpose	
7.3.3.4	Method of test	
7.3.3.4.1	Initial conditions	
7.3.3.4.2	Procedure	290

7.3.3.5	Acceptance criteria	290
7.3.4	UE recognising the priority order of the User controlled PLMN selector over the Operator controlled	
	PLMN selector list – E-UTRAN	
7.3.4.1	Definition and applicability	
7.3.4.2	Conformance requirement	
7.3.4.3	Test purpose	
7.3.4.4	Method of test	
7.3.4.4.		
7.3.4.4.		
7.3.4.5	Acceptance criteria	
7.4 7.4.1	Higher priority PLMN search handling	
7.4.1 7.4.1.1	UE recognising the search period of the Higher priority PLMN Definition and applicability	304 207
7.4.1.1	** *	
7.4.1.2	Test purpose	
7.4.1.3		
7.4.1.4 7.4.1.4.		
7.4.1.4.		
7.4.1.5	Acceptance criteria	
7.4.2	GSM/UmTS dual mode UEs recognising the search period of the Higher priority PLMN	
7.4.2.1	Definition and applicability	
7.4.2.2	Conformance requirement.	
7.4.2.3	Test purpose	
7.4.2.4	Method of test	
7.4.2.4.		
7.4.2.4.		
7.4.2.5	Acceptance criteria	
7.4.3	UE recognising the search period of the Higher priority PLMN – E-UTRAN	
7.4.3.1	Definition and applicability	
7.4.3.2	Conformance requirement	313
7.4.3.3	Test purpose	313
7.4.3.4	Method of test	313
7.4.3.4.		313
7.4.3.4.		
7.4.3.5	Acceptance criteria	314
7.4.4	E-UTRAn/EPC capable UEs recognising the search period of the Higher priority PLMN – GSM/E-	
	UTRAN	
7.4.4.1	Definition and applicability	
7.4.4.2	Conformance requirement	
7.4.4.3	Test purpose	
7.4.4.4	Method of test	
7.4.4.4.		
7.4.4.4.		
7.4.4.5 7.4.5	Acceptance criteria	317
7.4.3	UTRAN/E-UTRAN	217
7.4.5.1	Definition and applicability	
7.4.5.1	Conformance requirement	
7.4.5.3	Test purpose	
7.4.5.4	Method of test	
7.4.5.4		
7.4.5.4.		
7.4.5.5	Acceptance criteria	
7.4.3.3	Void	
8	Subscription independent tests	320
8.1	Phone book procedures	
8.1.1	Recognition of a previously changed phonebook	
8.1.1.1	Definition and applicability	
8.1.1.2	Conformance requirement	
8.1.1.3	Test purpose	
8114	Method of test	320

8.1.1.4.1	Initial conditions	320
8.1.1.4.2	Procedure	321
8.1.1.5	Acceptance criteria	321
8.1.2	Update of the Phonebook Synchronisation Counter (PSC)	322
8.1.2.1	Definition and applicability	322
8.1.2.2	Conformance requirement	322
8.1.2.3	Test purpose	322
8.1.2.4	Method of test	322
8.1.2.4.1	Initial conditions	322
8.1.2.4.2	Procedure	
8.1.2.5	Acceptance criteria	
8.1.3	Phonebook content handling	
8.1.3.1	Handling of BCD number/ SSC content extension	
8.1.3.1.1	Definition and applicability	
8.1.3.1.2	Conformance requirement	
8.1.3.1.3	Test purpose	
8.1.3.1.4	Method of test	
8.1.3.1.5	Acceptance criteria	
8.1.4	Phonebook selection	
8.1.4.1	Definition and applicability	
8.1.4.2	Conformance requirement	
8.1.4.3	Test purpose	
8.1.4.4	Method of test	
8.1.4.4.1	Initial conditions	
8.1.4.4.2	Procedure	
8.1.4.5	Acceptance criteria	
8.1.5	Local Phonebook handling	
8.1.5.1	Definition and applicability	
8.1.5.2	Conformance requirement	
8.1.5.2 8.1.5.3	Test purpose	
8.1.5.4	± ±	
8.1.5.4 8.1.5.4.1	Method of test	
8.1.5.4.1		
	Procedure	
8.1.5.5	Acceptance criteria	
8.2	Short message handling report	
8.2.1	Correct storage of a SM on the USIM	
8.2.1.1	Definition and applicability	
8.2.1.2	Conformance requirement	
8.2.1.3	Test purpose	
8.2.1.4	Method of test	
8.2.1.4.1	Initial conditions	
8.2.1.4.2	Procedure	
8.2.1.5	Acceptance criteria	
8.2.2	Correct reading of a SM on the USIM	
8.2.2.1	Definition and applicability	
8.2.2.2	Conformance requirement	
8.2.2.3	Test purpose	
8.2.2.4	Method of test	
8.2.2.4.1	Initial conditions	
8.2.2.4.2	Procedure	
8.2.2.5	Acceptance criteria	
8.2.3	SM memory capacity exceeded handling	
8.2.3.1	Definition and applicability	
8.2.3.2	Conformance requirement	
8.2.3.3	Test purpose	
8.2.3.4	Method of test	
8.2.3.4.1	Initial conditions	
8.2.3.4.2	Procedure	
8.2.3.5	Acceptance criteria	
8.2.4	Correct storage of an SM on the UICC	342
8.2.4.1	Definition and applicability	
8.2.4.2	Conformance requirement	342

8.2.4.3	Test purpose	
8.2.4.4	Method of test	342
8.2.4.4.1	Initial conditions	342
8.2.4.4.2	Procedure	
8.2.4.5	Acceptance criteria	345
8.2.5	Correct reading of a SM on the USIM if USIM and ISIM are present	346
8.2.5.1	Definition and applicability	346
8.2.5.2	Conformance requirement	346
8.2.5.3	Test purpose	346
8.2.5.4	Method of test	347
8.2.5.4.1	Initial conditions	347
8.2.5.4.2	Procedure	348
8.2.5.5	Acceptance criteria	348
8.2.6	Correct reading of a SM on the ISIM if USIM and ISIM are present	348
8.2.6.1	Definition and applicability	348
8.2.6.2	Conformance requirement.	
8.2.6.3	Test purpose	
8.2.6.4	Method of test	
8.2.6.4.1	Initial conditions	
8.2.6.4.2	Procedure	
8.2.6.5	Acceptance criteria	
8.3	MMS related tests	
8.3.1	UE recognising the priority order of MMS Issuer Connectivity Parameters	
8.3.1.1	Definition and applicability	
8.3.1.2	Conformance requirement.	
8.3.1.3	Test purpose	
8.3.1.4	Method of test	
8.3.1.4.1	Initial conditions	
8.3.1.4.2	Procedure	
8.3.1.5	Acceptance criteria	
8.3.2	UE recognising the priority order of MMS User Connectivity Parameters	
8.3.2.1	Definition and applicability	
8.3.2.2	Conformance requirement.	
8.3.2.3	Test purpose	
8.3.2.4	Method of test	
8.3.2.4.1	Initial conditions	
8.3.2.4.2	Procedure	
8.3.2.5	Acceptance criteria	
8.3.3	UE recognising the priority order of MMS Issuer Connectivity Parameters over the MMS User	
0.0.0	Connectivity Parameters	36?
8.3.3.1	Definition and applicability	
8.3.3.2	Conformance requirement	
8.3.3.3	Test purpose	
8.3.3.4	Method of test	
8.3.3.4.1	Initial conditions	
8.3.3.4.2	Procedure	
8.3.3.5	Acceptance criteria	
8.3.4	Usage of MMS notification	
8.3.4.1	Definition and applicability	
8.3.4.2	Conformance requirement	
8.3.4.3	Test purpose	
8.3.4.4	Method of test	
8.3.4.4.1	Initial conditions	
8.3.4.4.2	Procedure	
8.3.4.5	Acceptance criteria	
8.4	UICC presence detection	
8.4.1	Definition and applicability	
8.4.2	Conformance requirement	
8.4.3	Test purpose	
8.4.4	Method of test	
8.4.4.1	Initial conditions	
8.4.4.2	Procedure	

8.4.5	Acceptance criteria	
8.5	UICC presence detection when connected to E-UTRAN/EPC	377
8.5.1	Definition and applicability	377
8.5.2	Conformance requirement	377
8.5.3	Test purpose	378
8.5.4	Method of test	378
8.5.4.1	Initial conditions	378
8.5.4.2	Procedure	378
8.5.5	Acceptance criteria	378
9 U	SIM service handling	378
9.1	Access Point Name Control List handling	
9.1.1	Access Point Name Control List handling for terminals supporting ACL	
9.1.1.1	Definition and applicability	
9.1.1.2	Conformance requirement.	
9.1.1.3	Test purpose	
9.1.1.4	Method of test	
9.1.1.4.1	Initial conditions	
9.1.1.4.2	Procedure	
9.1.1.5	Acceptance criteria	
9.1.2	Network provided APN handling for terminals supporting ACL	
9.1.2.1	Definition and applicability	
9.1.2.1	Conformance requirement.	
9.1.2.3	Test purpose	
9.1.2.4	Method of test	
9.1.2.4.1	Initial conditions	
9.1.2.4.1	Procedure	
9.1.2.5	Acceptance criteria	
9.1.2.3	Access Point Name Control List handling for terminals not supporting ACL	
9.1.3.1	Definition and applicability	
9.1.3.1	Conformance requirement.	
9.1.3.2	Test purpose	
9.1.3.3	Method of test	
9.1.3.4.1	Initial conditions	
9.1.3.4.2	Procedure	
9.1.3.4.2	Acceptance criteria	
9.1.4	Access Point Name Control List handling for terminals supporting ACL connected to E-	
J.1. T	UTRAN/EPC	383
9.1.4.1	Definition and applicability	
9.1.4.2	Conformance requirement	
9.1.4.3	Test purpose	
9.1.4.4	Method of test	
9.1.4.4.1	Initial conditions	
9.1.4.4.2	Procedure	
9.1.4.5	Acceptance criteria	
9.1.5	Void	
9.1.6	Void	
9.2	Service Dialling Numbers handling	
9.2.1	Definition and applicability	
9.2.2	Conformance requirement	
9.2.3	Test purpose	
9.2.4	Method of test	
9.2.4.1	Initial conditions	
9.2.4.2	Procedure	
9.2.5	Acceptance criteria	
	•	
	SG list handling	
10.1	CSG list handling for E-UTRA	
10.1.1	Automatic CSG selection in E-UTRA with CSG list on USIM, success	
10.1.1.1	Definition and applicability	
10.1.1.2	Conformance requirement	
10 1 1 3	Test numose	390

10.1.1.4	Method of test	390
10.1.1.4.1	Initial conditions	390
10.1.1.4.2	Procedure	390
10.1.1.5	Acceptance criteria	391
10.1.2	Automatic CSG selection in E-UTRA with CSG list on USIM, removal of CSG ID from the USIM	391
10.1.2.1	Definition and applicability	391
10.1.2.2	Conformance requirement	391
10.1.2.3	Test purpose	392
10.1.2.4	Method of test	392
10.1.2.4.1	Initial conditions	392
10.1.2.4.2	Procedure	392
10.1.2.5	Acceptance criteria	392
10.1.3	Manual CSG selection in E-UTRA with CSG list on USIM, success	393
10.1.3.1	Definition and applicability	393
10.1.3.2	Conformance requirement.	394
10.1.3.3	Test purpose	394
10.1.3.4	Method of test	
10.1.3.4.1	Initial conditions	394
10.1.3.4.2	Procedure	394
10.1.3.5	Acceptance criteria	
10.1.4	Manual CSG selection in E-UTRA with CSG list on USIM, rejected	
10.1.4.1	Definition and applicability	
10.1.4.2	Conformance requirement	
10.1.4.3	Test purpose	
10.1.4.4	Method of test	
10.1.4.4.1	Initial conditions	
10.1.4.4.2		
10.1.4.5	Acceptance criteria	
10.1.5	CSG selection in E-UTRA with no CSG list on USIM, no IMSI change	
10.1.5.1	Definition and applicability	
10.1.5.2	Conformance requirement	
10.1.5.3	Test purpose	
10.1.5.4	Method of test	
10.1.5.4.1	Initial conditions	
10.1.5.4.2		
10.1.5.5	Acceptance criteria	
10.1.6	CSG selection in E-UTRA with no CSG list on USIM, with IMSI change	
10.1.6.1	Definition and applicability	
10.1.6.2	Conformance requirement	
10.1.6.3	Test purpose	
10.1.6.4	Method of test	
10.1.6.4.1	Initial conditions	
10.1.6.4.2		
10.1.6.5	Acceptance criteria	
10.1.7	Manual CSG selection without display restrictions in E-UTRA with ACSG list and OCSG list on	
	USIM	404
10.1.7.1	Definition and applicability	
10.1.7.2	Conformance requirement	
10.1.7.2	Test purpose	
10.1.7.4	Method of test	
10.1.7.4.1	Initial conditions	
10.1.7.4.2		
10.1.7.4.2	Acceptance criteria	
10.1.7.5	Manual CSG selection with display restrictions in E-UTRA with ACSG list and OCSG list on USIM	
10.1.8.1	Definition and applicability	
10.1.8.2	Conformance requirement	
10.1.8.3	Test purpose	
10.1.8.4	Method of test	
10.1.8.4.1 10.1.8.4.1	Initial conditions	
10.1.8.4.2	Procedure	
10.1.8.4.2 10.1.8.5	Acceptance criteria	
10.1.8.3	CSG list handling for UTRA	
-0		

10.2.1	Manual CSG selection without display restrictions in UTRA with ACSG list and OCSG list on	
	USIM	
10.2.1.1	Definition and applicability	
10.2.1.2	Conformance requirement	
10.2.1.3	Test purpose	
10.2.1.4	Method of test	
10.2.1.4.1		
10.2.1.4.2 10.2.1.5		
10.2.1.3	Acceptance criteria	
10.2.2	Definition and applicability	
10.2.2.1	Conformance requirement.	
10.2.2.3	Test purpose	
10.2.2.4	Method of test	
10.2.2.4.1		
10.2.2.4.2		
10.2.2.5	Acceptance criteria	
10.2.3	Manual CSG selection in UTRA with CSG list on USIM, success	
10.2.3.1	Definition and applicability	417
10.2.3.2	Conformance requirement	417
10.2.3.3	Test purpose	418
10.2.3.4	Method of test	418
10.2.3.4.1	Initial conditions	418
10.2.3.4.2		
10.2.3.5	Acceptance criteria	419
11 NA	AS security context parameter handling	420
11.1	NAS security context parameter handling when service "EMM Information" is available	
11.1.1	Definition and applicability	
11.1.2	Conformance requirement	
11.1.3	Test purpose	
11.1.4	Method of test	
11.1.4.1	Initial conditions	
11.1.4.2	Procedure	
11.1.5	Acceptance criteria	422
11.2	NAS security context parameter handling when service "EMM Information" is not available, no IMSI	
	change	
11.2.1	Definition and applicability	
11.2.2	Conformance requirement	
11.2.3	Test purpose	
11.2.4	Method of test	
11.2.4.1	Initial conditions	
11.2.4.2	Procedure	
11.2.5	Acceptance criteria	424
11.3	NAS security context parameter handling when service "EMM Information" is not available, IMSI	10
11 2 1	changed	
11.3.1 11.3.2	Definition and applicability	
11.3.2	Test purpose	
11.3.3	Method of test	
11.3.4.1	Initial conditions	
11.3.4.2	Procedure	
11.3.4.2	Acceptance criteria	
11.3.3	EPS NAS Security Context Storage	
11.4.1	Definition and applicability	
11.4.2	Conformance requirement	
11.4.3	Test purpose	
11.4.4	Method of test	
11.4.4.1	Initial conditions	
11.4.4.2	Procedure	
11.4.5	Acceptance criteria	428

	Non Access Stratum (NAS) Configuration parameter handling	
12.1	EF _{NASCONFIG} – NAS signaling priority handling	
12.1.1	Definition and applicability	
12.1.2	Void	
12.1.3	Void	
12.1.4	Void	
12.1.5	Void	
12.2	EF _{NASCONFIG} – NMO I Network Mode of Operation I handling	
12.2.1	Definition and applicability	
12.2.2	Void	
12.2.3	Void	
12.2.4	Void	
12.2.5	Void	
12.3	EF _{NASCONFIG} – Attach with IMSI handling	
12.3.1	Definition and applicability	
12.3.2	Void	
12.3.3	Void	
12.3.4	Void	
12.3.5	Void	
12.4	EF _{NASCONFIG} – Verifying Minimum Periodic Search Timer	
12.4.1	Definition and applicability	
12.4.2	Void	
12.4.3	Void	
12.4.4	Void	
12.4.5 12.5	Void	
12.5.1	EF _{NASCONFIG} – Extended access barring handling	
12.5.1	Void	
12.5.2	Void	
12.5.4	Void	
12.5.5	Void	
12.5.5	EF _{NASCONFIG} – Verifying Timer T3245 Behaviour	
12.6.1	Definition and applicability	
12.6.2	Conformance requirement	
12.6.3	Test purpose	
12.6.4	Method of test	
12.6.4.	1 Initial conditions	431
12.6.4.	Procedure	432
12.6.5	Acceptance criteria	432
13	UICC interface during PSM	440
13.1	UICC interface in PSM handling for E-UTRAN – No UICC deactivation in PSM	
13.1.1	Definition and applicability	
13.1.1	Conformance requirement	
13.1.2	Test purpose	
13.1.4	Method of test	
13.1.4		
13.1.4.		
13.1.5	Acceptance criteria	
13.2	UICC interface in PSM handling for E-UTRAN – PSM not accepted by E-USS/NB-SS	
13.2.1	Definition and applicability	
13.2.2	Conformance requirement	
13.2.3	Test purpose	
13.2.4	Method of test	
13.2.4.		
13.2.4.		
13.2.5	Acceptance criteria	445
13.3	UICC interface in PSM handling for E-UTRAN – UICC deactivation in PSM	
13.3.1	Definition and applicability	
13.3.2	Conformance requirement	
13.3.3	Test purpose	
1331	Method of test	114

Annex I	3 (informative): Change history	459
Annex A	A (informative): ASN.1 structure for uac-BarringInfo	456
14.4.5	Acceptance criteria	455
14.4.4.2	Procedure	
14.4.4.1	Initial conditions	
14.4.4	Method of test	
14.4.3	Test purpose	
14.4.2	Conformance requirement	
14.4.1	Definition and applicability	
14.4	UICC interface during eDRX for E-UTRAN- SUSPEND UICC	
14.3.5	Acceptance criteria	
14.3.4.2	Procedure	
14.3.4.1	Initial conditions	
14.3.4	Method of test	
14.3.3	Test purpose	
14.3.2	Conformance requirement	
14.3.1	Definition and applicability	
14.3	UICC interface during eDRX for E-UTRAN – UICC deactivation during eDRX	
14.2.5	Acceptance criteria	
14.2.4.1	Initial conditions	
14.2.4	Method of test	
14.2.3	Test purpose	
14.2.2	Conformance requirement	
14.2.1	Definition and applicability	
14.2	UICC interface during eDRX for E-UTRAN – eDRX is not accepted by E-USS/NB-SS	
14.1.5	Acceptance criteria	
14.1.4.2	Procedure	
14.1.4.1	Initial conditions	
14.1.4	Method of test	
14.1.3	Test purpose	
14.1.2	Conformance requirement	
14.1.1	Definition and applicability	
14.1	UICC interface during eDRX for E-UTRAN – eDRX is not supported by the UICC	
	ICC interface during eDRX	
14 **	•	
13.4.5	Acceptance criteria	
13.4.4.2	Procedure	
13.4.4.1	Initial conditions	
13.4.4	Method of test	
13.4.3	Test purpose	
13.4.2	Conformance requirement	
13.4.1	Definition and applicability	
13.4	UICC interface in PSM for E-UTRAN – SUSPEND UICC	
13.3.5	Acceptance criteria	
13.3.4.2	Procedure	
13.3.4.1	Initial conditions	445

Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- Y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document defines the application test specification.

The aim of the present document is to ensure interoperability between an UICC and a terminal independently of the respective manufacturer, card issuer or operator. The present document does not define any aspects related to the administrative management phase of the UICC. Any internal technical realisation of either the UICC or the Terminal is only specified where these are reflected over the interface.

Application specific details for applications residing on an UICC are specified in the respective application specific documents. The logical and physical Characteristics of the UICC Terminal interface is specified in document ETSI TS 102 221 [5]. The Universal Subscriber Identity Module (USIM)-application for 3G telecommunication networks is specified in document TS 31.102 [4].

1 Scope

The present document provides the UICC –Terminal Interface Conformance Test Specification between a 2G, 3G,4G or 5G terminal and the USIM (Universal Subscriber Identity Module) as an application on the UICC and the Terminal for a 2G, 3G, 4G or 5G network operation:

- the default setting of the USIM;
- the applicability of each test case;
- the test configurations;
- the conformance requirement and reference to the core specifications;
- the test purposes; and
- a brief description of the test procedure and the specific acceptance criteria.

For the avoidance of doubt, references to clauses of ETSI TS 102 221 [5] include all the clauses of that clause, unless specifically mentioned.

ETSI TS 102 221 [5] contains material that is outside of the scope of 3GPP requirements. A 3GPP ME may support functionality that is not required by 3GPP, but the requirements to do so are outside of the scope of 3GPP. Thus the present document does not contain tests for features defined in ETSI TS 102 221 [5] which are out of scope of 3GPP.

In the present document, unless explicitly stated otherwise, for Rel-13 onwards the term E-UTRAN implicitly refers to E-UTRAN in WB-S1 mode. E-UTRAN in NB-S1 mode is always explicitly referred to as NB-IoT.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version in same release as the implementation release of the terminal under test applies.
- [1] Void
- [2] Void
- [3] 3GPP TS 23.038: "Alphabets and language-specific information".
- [4] 3GPP TS 31.102: "Characteristics of the USIM application".
- [5] If the device under test is a
 - R99 ME: ETSI TS 102 221 v3.18.0: "UICC-Terminal interface; Physical and logical characteristics",
 - Rel-4 ME:ETSI TS 102 221 v4.16.0: "UICC-Terminal interface; Physical and logical characteristics",
 - Rel-5 ME:ETSI TS 102 221 v5.10.0: "UICC-Terminal interface; Physical and logical characteristics",
 - Rel-6 ME:ETSI TS 102 221 v6.15.0: "UICC-Terminal interface; Physical and logical characteristics",
 - Rel-7 ME:ETSI TS 102 221 v7.17.0: "UICC-Terminal interface; Physical and logical characteristics",

•	Rel-8 ME:ETSI TS 102 221 v8.5.0: "UICC-Terminal interface; Physical and
	logical characteristics",

- Rel-9 ME:ETSI TS 102 221 v9.2.0: "UICC-Terminal interface; Physical and logical characteristics"",
- Rel-10 ME: ETSI TS 102 221 v10.0.0: "UICC-Terminal interface; Physical and logical characteristics",
- Rel-11 ME: ETSI TS 102 221 v11.1.0: "UICC-Terminal interface; Physical and logical characteristics",
- Rel-12 ME: ETSI TS 102 221 v12.1.0: "UICC-Terminal interface; Physical and logical characteristics".
- Rel-13 ME: ETSI TS 102 221 v13.2.0: "UICC-Terminal interface; Physical and logical characteristics".
- Rel-14 ME: ETSI TS 102 221 v14.1.0: "UICC-Terminal interface; Physical and logical characteristics".
- Rel-15 ME: ETSI TS 102 221 v15.0.0: "UICC-Terminal interface; Physical and logical characteristics".
- [6] 3GPP TS 22.011: "Service accessibility".
- [7] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [8] 3GPP TS 22.024: "Description of Charge Advice Information (CAI)".
- [9] 3GPP TS 23.086: "Advice of Charge (AoC) Supplementary Service Stage 2".
- [10] 3GPP TS 24.086: "Advice of Charge (AoC) Supplementary Service Stage 3".
- [11] 3GPP TS 22.101: "Service aspects; Service principles".
- [12] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".
- [13] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".
- [14] 3GPP TS 23.003: "Numbering, Addressing and Identification".
- [15] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".
- [16] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core Network protocols; Stage 3".
- [17] 3GPP TS 24.080: "Mobile radio Layer 3 supplementary service specification; Formats and coding".
- [18] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".
- [19] 3GPP TS 21.111: "USIM and IC card requirements".
- [20] 3GPP TS 25.331 "Radio Resource Control (RRC); Protocol Specification".
- [21] 3GPP TS 34.108 "Common test environments for User Equipment (UE) conformance testing".
- [22] 3GPP TS 51.010-1 "Mobile Station (MS) conformance specification; Part1: Conformance specification".
- [23] 3GPP TS 23.140 Release 6 "Multimedia Messaging Service (MMS); Functional description; Stage 2".
- [24] 3GPP TS 24.002 "GSM UMTS Public Land Mobile Network (PLMN) Access Reference Configuration".
- [25] 3GPP TS 23.060 "General Packet Radio Service (GPRS); Service description; Stage 2".
- [26] 3GPP TS 24.301: "Technical Specification Group Core Network and Terminals; Non-Access-Stratum (NAS) protocol for Evolved Packet Systems (EPS): Stage 3".

[27]	3GPP TS 33.401: "3GPP System Architecture Evolution (SAE); Security architecture".
[28]	3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC); Protocol specification".
[29]	3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common test environments for User Equipment (UE) conformance testing"
[30]	3GPP TS 36.523-2 " Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification"
[31]	3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".
[32]	3GPP TS 31.103: "Characteristics of the IP Multimedia Services Identity Module (ISIM) application".
[33]	3GPP TS 34.229-1: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".
[34]	3GPP TS 22.220: "Universal Mobile Telecommunications System (UMTS); Service requirements for Home Node B (HNB) and Home eNode B (HeNB)".
[35]	3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE); Procedures in idle mode ".
[36]	3GPP TS 24.368: "Non-Access Stratum (NAS) configuration Management Object (MO)"
[37]	3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".
[38]	3GPP 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".3 Definitions, symbols, abbreviations and coding
[39]	3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics".
[40]	3GPP TS 38.508-1: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment".
[41]	3GPP TS 33.501: "Security architecture and procedures for 5G System".
[42]	3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".
[43]	3GPP TS 22.261: "Service requirements for the 5G system".
[44]	3GPP TS 38.331: "NR Radio Resource Control (RRC) protocol specification".

3 Definitions, symbols, abbreviations and coding

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

Application DF (ADF): entry point to an application

access conditions: set of security attributes associated with a file

access technology: Radio Access Technology of the Terminal (e.g. NG-RAN, E-UTRAN, UTRAN or GSM)

application: consists of a set of security mechanisms, files, data and protocols (excluding transmission protocols)

application protocol: set of procedures required by the application

card session: link between the card and the external world starting with the ATR and ending with a subsequent reset or a deactivation of the card

current directory: latest MF or DF or ADF selected

current EF: latest EF selected

data object: information coded as TLV objects, i.e. consisting of a Tag, a Length and a Value part

Dedicated File (DF): file containing access conditions and, optionally, Elementary Files (Efs) or other Dedicated Files (DEc)

(DFs)

directory: general term for MF, DF and ADF

Elementary File (EF): file containing access conditions and data and no other files

file: directory or an organised set of bytes or records in the UICC

file identifier: 2 bytes which address a file in the UICC

function: function contains a command and a response pair

GSM session: that part of the card session dedicated to the GSM operation

Master File (MF): unique mandatory file containing access conditions and optionally DFs and/or Efs

MMS Relay/Server: MMS-specific network entity/application that is under the control of the MMS service provider

NOTE: An MMS Relay/Server transfers messages, provides operations of the MMS that are specific or required by the mobile environment and provides (temporary and/or persistent) storage services to the MMS

MMS User Agent: application residing on a UE or an external device that performs MMS-specific operations on a user's behalf

normal USIM operation: relating to general, PIN related, LTE and/or 3G and/or GSM security and subscription related procedures

record: string of bytes within an EF handled as a single entity

record number: number, which identifies a record within an EF

record pointer: pointer, which addresses one record in an EF

terminal: device into which a UICC can be inserted and which is capable of providing access to 3GPP system services to users, either alone or in conjunction with a UICC

User Equipment (UE): terminal with a UICC inserted with one or several Universal Subscriber Identity Module(s) (USIM) available for access either NG-RAN or E-UTRAN or UTRAN or GERAN or any combination.

USIM session: USIM session is a selectable application session for a USIM application

3.2 Symbols

For the purposes of the present document, the following symbols apply:

bx Bit x of byte (leftmost bit is MSB)

Bn Byte No. n

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

2G 2nd Generation 3G 3rd Generation

3GPP 3rd Generation Partnership Project

ACC Access Class
ACL APN Control List
ACM Accumulated Call Meter
ACMmax ACM maximal value
ACT Access Technology
ADF Application Dedicated File

AoC Advice of Charge

AoCC Advice of Charge Charging

APN Access Point Name

ASME Access Security Management Entity

ATR Answer To Reset

BCCH Broadcast Control Channel
BCD Binary Coded Decimal
BDN Barred Dialling Number

CCI Capability / Configuration1 Identifier CCI2 Capability / Configuration(2) Identifier

CCM Current Call Meter
CK Cipher key
CN Core Network
CS Circuit switched

CSG Closed Subscriber Group

DF Dedicated File EPC Evolved Packet Core

E-USS Evolved UMTS System Simulator

E-UTRA Evolved UTRA EF Elementary File

eFDD evolved Frequency Division Duplex

EMM EPS Mobility Management EMMI Electrical Man Machine Interface

EPS Evolved Packet System eTDD evolved Time Division Duplex

Ext n Extension n

FDD Frequency Division Duplex FDN Fixed Dialling Number FPLMN Forbidden PLMN

GSM Global System for Mobile communications

HNB Home NodeB HeNB Home eNodeB HPLMN Home PLMN

ICC Integrated Circuit Card

ID Identifier

IEC International Electrotechnical Commission

IK Integrity key

IMSI International Mobile Subscriber Identity
ISO International Organization for Standardization

KSI Key Set Identifier
LAC Location Area Code
LAI Location Area Information
LSB Least Significant Bit
MCC Mobile Country Code
MCS Mission Critical Services

MF Master File

MM Multimedia Message MMI Man Machine Interface

MMS Multimedia Messaging Service

MNC Mobile Network Code
MPS Multimedia Priority Service

MS Mobile Station
MSB Most Significant Bit
NAS Non Access Stratum

NB-IoT Narrow Band Internet of Things NB-SS Narrow Band System Simulator NPI Numbering Plan Identifier
OFM Operational Feature Monitor
OSI Open System Interconnection

P1 Parameter 1 P2 Parameter 2 P3 Parameter 3

PIN Personal Identification Number PLMN Public Land Mobile Network

PS Packet switched

RACH Random Access Channel
RFU Reserved for Future Use
RRC Radio Resource Control
SFI Short File Identifier
SIB System Information Block

SM Short Message

SMS Short Message Service
SS System Simulator (GSM)
TDD Time Division Duplex
TE Terminal Equipment
TLV Tag Length Value

TMSI Temporary Mobile Subscriber Identity

TON Type Of Number
UAC Unified Access Control
UE User Equipment

USIM Universal Subscriber Identity Module

USS UMTS System Simulator

UTRA Universal Terrestrial Radio Access
UTRAN UMTS Terrestrial Radio Access Network

VPLMN Visitor PLMN

3.4 Coding Conventions

For the purposes of the present document, the following coding conventions apply:

All lengths are presented in bytes, unless otherwise stated. Each byte B is represented by eight bits b8 to b1, where b8 is the most significant bit (MSB) and b1 is the least significant bit (LSB). In each representation, the leftmost bit is the MSB.

In the UICC, all bytes specified as RFU shall be set to '00' and all bits specifies as RFU shall be set to '0'. If the GSM and/or USIM application exists on a UICC or is built on a generic telecommunications card, then other values may apply for the non- GSM or non-USIM applications. The values will be defined in the appropriate specifications for such cards and applications. These bytes and bits shall not be interpreted by a Terminal in a GSM or 3G session.

The coding of all data objects in the present document is according to ETSI TS 102 221 [5]. All data objects are BER-TLV except if otherwise defined.

3.5 Generic procedures for E-UTRAN/UTRAN/GERAN/IMS/NB-IoT/5G-NR

If a test case contains the statement "This test applies to Terminals accessing E-UTRAN", the procedures defined in TS 36.508 [29] shall be the basis for all performed procedures during the test. The procedures in clause 4.5 describe the default behaviour of a conformant UE regarding the specified protocols to be used for E-UTRAN and the required procedures from the NAS.

If a test case contains the statement "This test applies to Terminals accessing UTRAN", the procedures defined in TS 34.108 [21], clause 7.2 shall be the basis for all performed procedures during the test. The procedures in clause 7 describe the default behaviour of a conformant UE regarding the specified protocols to be used for UTRAN and the required procedures from the NAS.

If a test case contains the statement "This test applies to Terminals accessing GERAN", the procedures defined in TS 51.010-1 [22], clause 10 shall be the basis for all performed procedures during the test. The procedures in clause 10 describe the default behaviour of a conformant UE regarding the specified protocols to be used for GERAN and the required procedures from the NAS.

3GPP TS 34.229-1[33], Annex C describes the generic test procedures for IMS.

If a test case contains the statement "This test applies to Terminals accessing NB", the procedures defined in TS 36.508 [29] shall be the basis for all performed procedures during the test. The procedures in TS 36.508 [29] clause 8.1.5 describe the default behaviour of a conformant UE regarding the specified protocols to be used for NB-IoT and the required procedures from the NAS.

If a test case contains the statement "This test applies to Terminals accessing 5G-NR", the procedures defined in TS 38.508-1 [40] shall be the basis for all performed procedures during the test. The procedures in clause 4.5 describe the default behaviour of a conformant UE regarding the specified protocols to be used for 5G-NR and the required procedures from the NAS.

3.6 Applicability

3.6.1 Applicability of the present document

The present document applies to a terminal equipment supporting the USIM.

3.6.2 Applicability to terminal equipment

The applicability to terminal equipment supporting the USIM is specified in table B.1, unless otherwise specified in the specific clause.

3.6.3 Applicability of the individual tests

Table B.1 lists the optional, conditional or mandatory features for which the supplier of the implementation states the support. As pre-condition the supplier of the implementation shall state the support of possible options in table A.1.

The "Release XY ME" columns shows the status of the entries as follows:

The following notations, defined in ISO/IEC 9646-7 [19], are used for the status column:

M mandatory – the capability is required to be supported.

O optional – the capability may be supported or not.

N/A not applicable – in the given context, it is impossible to use the capability.

X prohibited (excluded) – there is a requirement not to use this capability in the given context.

O.i qualified optional – for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is

defined immediately following the table.

Ci conditional – the requirement on the capability ("M", "O", "X" or "N/A") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." shall be used to avoid ambiguities.

The "Additional test case execution recommendation" column shows the status of the entries as follows:

A applicable - the test is applicable according to the corresponding entry in the "Rxx ME" column

R redundant – the test has to be considered as redundant when the corresponding E-UTRAN/EPC related test of the present document has been validated and successfully executed. In that case the

requirement may be verified by means of the E-UTRAN/EPC functionality only.

AERi Additional test case Execution Recommendation – with respect to the above listed definitions of

("A") and ("R") the test is applicable ("A") or redundant ("R") depending on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax

"IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." shall be used to avoid ambiguities.

References to items

For each possible item answer (answer in the support column) there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.), respectively.

EXAMPLE: A.1/4 is the reference to the answer of item 4 in table A.1.

3.7 Table of optional features

Support of several features is optional or release dependent for the terminal equipment. However, if an ME states conformance with a specific 3GPP release, it is mandatory for the ME to support all mandatory functions of that release, as stated in table A.1 with the exception of the functions:

- "Support of ACL"; and
- "Support of local phonebook";

The supplier of the implementation shall state the support of possible options in table A.1.

Table A.1: Options

II.	0(:	01-1	0	M
Item	Option	Status	Support	
1	Support of CS	0		O_CS
2	Support of a feature requiring PIN2	0		O_PIN2_ENTRY_FEAT
	entry (such as e.g. AoC or FDN)			
3	Support of UTRAN access	C001		O_UTRAN
4	Support of GERAN access	C002		O_GERAN
5	Support of Fixed Dialling Numbers	0		O_FDN
6	Support of Advice of Charge	0		O_AoCC
	Charging			
7	Support of Higher priority PLMN	C003		O_HPLMNwACT
	selector with Access Technology			
	service (Implementation is optional			
	in Rel-6 and onwards)			0.11.00
8	Support of local phonebook	0		O_Local_PB
		NOTE 1		0.011.100
9	Support of global phonebook	C004		O_Global_PB
10	Support of storing received Class	0		O_Store_Received_SMS
44	2 Short Messages in the USIM	_		O MMO
11	Support of MMS	0		O_MMS
12	Support of usage of MMS related	C005		O_MMS_USIM_DATA
40	data stored on the USIM	_		O NO LIGED MANO CONE CELEC
13	Supported of unselected user	0		O_NO_USER_MMS_CONF_SELEC
4.4	MMS connectivity parameters			O MMO NOTIF OTORAGE
14	Support of MMS notification	0		O_MMS_NOTIF_STORAGE
4.5	storage on the USIM	_		0.40
15	Support of ACL	O NOTE 2		O_ACL
40	Ours and at ODNI			0.000
16	Support of SDN	0		O_SDN
17	Support of numerical entry of	0		O_EFPLMNwACT_numerical entry
40	PLMN codes in EF PLMNwACT			0.0
18	Terminal does support speech call	0		O_Speech_Calls
19	Terminal support PIN MMI strings	0		O_PIN_MMI_Strings
20	Terminal does support eFDD	0		pc_eFDD
21	Terminal does support eTDD	0		pc_eTDD
22	Terminal does support CSG list	0		pc_Allowed_CSG_list
00	handling (for E-UTRA)	_		as OM sees ID as a six as
23	Terminal supports SM-over-IP-	0		pc_SM-over-IP receiver
24	receiver Terminal supports reading SMS'	0		pc_USIM_EF_SMS_reading_support_if_USI
24	stored in EF SMS on the USIM if			M_ISIM both present
	USIM and ISIM are present			INI_ISTINI DOUT Present
25	Terminal supports reading SMS'	0		pc_ISIM_EF_SMS_reading_support_if_USIM
23	stored in EF SMS on the ISIM if			_ISIM both present
	USIM and ISIM are present			_ IONVI BOTH PICSON
26	Terminal can store more than	0		O_LARGE_SMS_STORAGE
	1000 text messages			0_2/1/02_0//02/07/02
27	Support for multiple PDN	0		pc_Multiple_PDN
	connections			po_manpio_r bit
28	Terminal does support CSG (for	0		pc_CSG
	UTRA)			
29	Support of manual CSG selection	0		pc_manual_CSG_selection
30	Support of PS	Ö		O_PS
31	Terminal does support display	0		O_Display
32	Terminal does support keypad	0		O_Keypad
33	Terminal supports E-UTRA	0		O_EUTRA_Disabling_EMM_cause#15
	Disabling Allowed for EMM cause			
	#15			
34	Terminal supports Override NAS	0		O_Override_NAS_signalling_low_priority
	signalling low priority			
35	Terminal supports T3245 timer	0		O_T3245
36	Terminal supports Override	0		O_Override_EAB
	Extended access barring			
37	Terminal does support NB-IoT	0		pc_NB
38	MS maintains a list of PLMN-	0		O_PLMN_specific_attempt_counters
	specific attempt counters			
-	· · · · · · · · · · · · · · · · · · ·	•	•	

39	Terminal does support deactivation of the UICC in PSM.	0	O_PSM_DEAC_UICC				
40	Terminal does support deactivation of the UICC during extended DRX	0	O_eDRX_DEAC_UICC				
41	Terminal does support the UICC suspension mechanism in PSM.	0	O_PSM_ SUSPEND_UICC				
42	Terminal does support the UICC suspension mechanism during extended DRX	0	O_eDRX_ SUSPEND_UICC				
43	UE supports 5G Core Network	0	pc_5GC				
44	Support of NR access	0	pc_NR				
C001	If terminal is 3G terminal then M els	e N/A					
C002	If terminal is 2G terminal then M els	e O					
C003	If Higher priority PLMN selector with Access Technology service is implemented according to Rel-6 or later then O else M						
C004	If (A.1/18 is supported) AND (A.1/31 is supported) AND (A.1/32 is supported) AND (terminal is implemented according to Rel-6 or later) then M, else O						
C005	, ,						
C006	void						
NOTE 1: The support of this feature was made optional by CR#0214. See conditions in TS 31.102 [4] NOTE 2: The support of this feature was made optional by CR#0200.							

3.8 Applicability table

Table B.1: Applicability of tests

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
1	UE identification by short IMSI	R99	5.1.1	М	М	М	М	М	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005
2	UE identification by short IMSI using 2 digit MNC	R99	5.1.2	M	M	M	M	M	9 9	9 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005
3	UE identification by "short" TMSI	R99	5.1.3	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C004	C004	C004	UMTS System Simulator or System Simulator only		AER005
4	UE identification by "long" TMSI	R99	5.1.4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C004	C004	C004	UMTS System Simulator or System Simulator only		AER005
5	UE identification by long IMSI, TMSI updating after key set identifier assignment	R99	5.1.5	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C00 4	C004	C004	C004	UMTS System Simulator or System Simulator only		AER005
6	UE identification by short IMSI when accessing E-UTRAN/EPC	Rel-8	5.1.6	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
7	UE identification by short IMSI using 2 digit MNC when accessing E- UTRAN/EPC	Rel-8	5.1.7	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
8	UE identification after changed IMSI with service "EMM Information" not available	Rel-8	5.1.8	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
9	UE identification by GUTI when using USIM with service "EMM Information" not available	Rel-8	5.1.9	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
10	UE identification by GUTI when using USIM with service "EMM Information" available	Rel-8	5.1.10	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
11	Access Control information handling	R99	5.2.1	C02 4	C02 4	C02 4	C02 4	C02 4	C02 4	C02 4	C02 4	C02 4	C02 4	C024	C024	C024	UMTS System Simulator or System Simulator only		
12	Access Control information handling for E- UTRAN/EPC	Rel-8	5.2.2	N/A	N/A	N/A	N/A	N/A	C03 6	C03 6	C03 6	C03 6	C03 6	C036	C036	C036	E-UTRAN System Simulator only		
13	Entry of PIN	R99	6.1.1	М	М	М	М	М	М	М	М	М	М	М	М	М	No		
14	Change of PIN	R99	6.1.2	М	М	М	М	М	М	М	М	М	М	М	М	М	No		
15	Unblock PIN	R99	6.1.3	C02 5	C02 5	C02 5	C02 5	C02 5	C02 5	C02 5	C02 5	C02 5	C02 5	C025	C025	C025	No		

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
40	Entry of DINO	se R99	6.1.4	C00	C00	C00	C00	C00	C00	C00	C00	C00	C00	C005	C005	C005	No		
16	Entry of PIN2	K99	0.1.4	5	5	5	5	5	5	5	5	5	5	C005	C005	C005	INO		
17	Change of PIN2	R99	6.1.5	C00 5	C00 5	C00 5	C00 5	C00 5	C00 5	C00 5	C00 5	C00 5	C00 5	C005	C005	C005	No		
18	Unblock PIN2	R99	6.1.6	C02 6	C02 6	C02 6	C02 6	C02 6	C02 6	C02 6	C02 6	C02 6	C02 6	C026	C026	C026	No		
19	Replacement of PIN	R99	6.1.7	М	M	М	М	М	М	M	М	М	М	М	М	М	No		
20	Change of Universal PIN	R99	6.1.8	М	М	М	М	М	М	М	М	М	М	М	М	М	No		
21	Unblock Univesal PIN	R99	6.1.9	М	М	М	М	М	М	М	М	М	М	М	М	М	No		
22	Entry of PIN on multi- verification capable UICCs	Rel-4	6.1.10	N/A	М	M	M	M	M	М	M	М	M	M	M	M	No		
23	Change of PIN on multi- verification capable UICCs	Rel-4	6.1.11	N/A	М	М	М	М	М	М	М	М	М	M	M	М	No		
24	Unblock PIN on multi- verification capable UICCs	Rel-4	6.1.12	N/A	C02 5	C02 5	C02 5	C025	C025	C025	No								
25	Entry of PIN2 on multi- verification capable UICCs	Rel-4	6.1.13	N/A	C00 5	C00 5	C00 5	C005	C005	C005	No								
26	Change of PIN2 on multi- verification capable UICCs	Rel-4	6.1.14	N/A	C00 5	C00 5	C00 5	C005	C005	C005	No								

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
27	Unblock PIN2 on multi- verification capable UICCs	Rel-4	6.1.15	NA/	C02 6	C02 6	C02 6	C026	C026	C026	No								
28	Replacement of PIN with key reference "07"	Rel-4	6.1.16	N/A	М	М	М	М	М	М	М	М	М	M	M	М	No		
29	Terminal and USIM with FDN enabled, EFADN readable and updateable	R99	6.2.1	C00 6	N/A	N/A	N/A	N/A	N/A	N/A	UMTS System Simulator or System Simulator only								
30	Terminal and USIM with FDN disabled	R99	6.2.2	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C006	C006	C006	UMTS System Simulator or System Simulator only		
31	Enabling, disabling and updating FDN	R99	6.2.3	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C00 6	C006	C006	C006	UMTS System Simulator or System Simulator only		
32	Terminal and USIM with FDN enabled, EFADN readable and updateable (Rel-4 and onwards)	Rel-4	6.2.4	N/A	C00 6	C00 6	C00 6	C006	C006	C006	UMTS System Simulator or System Simulator only								
33	AoC not supported by USIM	R99	6.4.1	C00 7	C00 7	C00 7	C00 7	C00 7	C00 7	C00 7	C00 7	C00 7	C00 7	C007	C007	C007	UMTS System Simulator or System Simulator only		
34	Maximum frequency of ACM updating	R99	6.4.2	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C008	C008	C008	UMTS System Simulator or System Simulator only		

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
35	Call terminated when ACM greater than ACMmax	se R99	6.4.3	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C008	C008	C008	UMTS System Simulator or System Simulator only		
36	Response codes of increase command of ACM	R99	6.4.4	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C00 8	C008	C008	C008	UMTS System Simulator or System Simulator only		
37	Adding FPLMN to the forbidden PLMN list	R99	7.1.1	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C047	C047	C047	UMTS System Simulator or System Simulator only		AER005
38	UE updating forbidden PLMNs	R99	7.1.2	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C04 7	C047	C047	C047	UMTS System Simulator or System Simulator only		AER005
39	UE deleting forbidden PLMNs	R99	7.1.3	М	М	М	М	М	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005
40	Adding FPLMN to the forbidden PLMN list when accessing E- UTRAN	Rel-8	7.1.4	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
41	UE updating forbidden PLMNs when accessing E-UTRAN	Rel-8	7.1.5	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
42	UE deleting forbidden PLMNs when accessing E- UTRAN	Rel-8	7.1.6	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
43	UE updating the User controlled PLMN selector list	R99	7.2.1	C02 2	C02 2	C02 2	C02 2	C02 2	C02 2	C02 2	C02 2	C02 2	C02 2	C022	C022	C022	No		
44	UE recognising the priority order of the User controlled PLMN selector list with the same access technology	R99	7.2.2	M	M	M	M	M	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005
45	UE recognising the priority order of the User controlled PLMN selector list using an ACT preference	R99	7.2.3	C00 9	C00 9	C00 9	C00 9	C00 9	C00 9	C00 9	C00 9	C00 9	C00 9	C009	C009	C009	UMTS System Simulator and System Simulator		
46	User controlled PLMN selector handling for E-UTRAN	Rel-8	7.2.5	N/A	N/A	N/A	N/A	N/A	C02 2 AN D C02 7	C02 2 AN D C02 7	C02 2 AN D C02 7	C02 2 AN D C02 7	C02 2 AN D C02 7	C022 AND C027	C022 AND C027	C022 AND C027	No		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
47	UE recognising the priority order of the User controlled PLMN selector list using an ACT preference – UTRAN/E- UTRAN	Rel-8	7.2.6	N/A	N/A	N/A	N/A	N/A	C02 2 AN D C02 7 AN D C04 8	C02 2 AN D C02 7 AN D C04	C02 2 AN D C02 7 AN D C04 8	C02 2 AN D C02 7 AN D C04 8	C02 2 AN D C02 7 AN D C04 8	C022 AND C027 AND C048	C022 AND C027 AND C048	C022 AND C027 AND C048	E-UTRAN System Simulator and UMTS System Simulator		
48	UE recognising the priority order of the User controlled PLMN selector list using an ACT preference – GSM/E- UTRAN	Rel-8	7.2.7	N/A	N/A	N/A	N/A	N/A	C02 2 AN D C02 7 AN D C05 5	C02 2 AN D C02 7 AN D C05 5	C02 2 AN D C02 7 AN D C05 5	C02 2 AN D C02 7 AN D C05 5	C02 2 AN D C02 7 AN D C05 5	C022 AND C027 AND C055	C022 AND C027 AND C055	C022 AND C027 AND C055	E-UTRAN System Simulator and System Simulator		
49	UE recognising the priority order of the Operator controlled PLMN selector list	R99	7.3.1	M	M	M	M	M	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
50	UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list	R99	7.3.2	M	M	M	M	M	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER005
51	UE recognising the priority order of the Operator controlled PLMN selector list when accessing E- UTRAN	Rel-8	7.3.3	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
52	UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list - E-UTRAN	Rel-8	7.3.4	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
53	UE recognising the search period of the Higher priority PLMN	R99	7.4.1	C01 0	C01 0	C01 0	C01 0	C01 0	C01 0	C01 0	C01 0	C01 0	C01 0	C010	C010	C010	UMTS System Simulator or System Simulator only		AER005
54	GSM/UMTS dual mode Ues recognising the search period of the Higher priority PLMN	R99	7.4.2	C00 3	C00 3	C00 3	C00 3	C00 3	C00 3	C00 3	C00 3	C00 3	C00 3	C003	C003	C003	UMTS System Simulator and System Simulator		
55	UE recognising the search period of the Higher priority PLMN – E- UTRAN	Rel-8	7.4.3	N/A	N/A	N/A	N/A	N/A	C01 0 AN D C02 7	C01 0 AN D C02 7	C01 0 AN D C02 7	C01 0 AN D C02 7	C01 0 AN D C02 7	C010 AND C045	C010 AND C045	C010 AND C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
56	E- UTRAN/EPC capable Ues recognising the search period of the Higher priority PLMN – GSM/E- UTRAN	Rel-8	7.4.4	N/A	N/A	N/A	N/A	N/A	C00 3 AN D C02 7	C00 3 AN D C02 7	C00 3 AN D C02 7	C00 3 AN D C02 7	C00 3 AN D C02 7	C003 AND C027	C003 AND C027	C003 AND C027	E-UTRAN System Simulator and System Simulator		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
57	E- UTRAN/EPC capable Ues recognising the search period of the Higher priority PLMN – UTRAN/E- UTRAN	Rel-8	7.4.5	N/A	N/A	N/A	N/A	N/A	1 AN D C02 7	C01 1 AN D C02 7	C01 1 AN D C02 7	C01 1 AN D C02 7	C01 1 AN D C02 7	C011 AND C027	C011 AND C027	C011 AND C027	E-UTRAN System Simulator and UMTS System Simulator		
58	Recognition of a previously changed phonebook	R99	8.1.1	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C012	C012	C012	No		
59	Update of the Phonebook Synchronisati on counter (PSC)	R99	8.1.2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C012	C012	C012	No		
60	Handling of BCD number/ SSC content extension	R99	8.1.3.1	N/A	N/A	C01 3	C01 3	C01 3	C01 3	C01 3	C01 3	C01 3	C01 3	C013	C013	C013	No		
61	Phonebook selection	R99	8.1.4	N/A	N/A	C01 4	C01 4	C01 4	C01 4	C01 4	C01 4	C01 4	C01 4	C014	C014	C014	No		
62	Local Phonebook handling	R99	8.1.5	N/A	N/A	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C01 2	C012	C012	C012	No		
63	Correct storage of a SM on the USIM	R99	8.2.1	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C015	C015	C015	UMTS System Simulator or System Simulator only		AER003
64	Correct reading of a SM on the USIM	R99	8.2.2	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C01 5	C015	C015	C015	UMTS System Simulator or System Simulator only		AER004

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
65	SM memory capacity exceeded handling	R99	8.2.3	C03 5	C03 5	C03 5	C03 5	C03 5	C03 5	C03 5	C03 5	C03 5	C03 5	C035	C035	C035	UMTS System Simulator or System Simulator only		
66	Correct storage of an SM on the UICC	Rel-7	8.2.4.A	N/A	N/A	N/A		C03 2	C03 2	C03 2	C03 2	C03 2	C03 2	C032	C032	C032	UMTS System Simulator		
67	Correct storage of an SM on the UICC	Rel-8	8.2.4.B	N/A	N/A	N/A	N/A	N/A	C03 1	C03 1	C03 1	C03 1	C03 1	C031	C031	C031	E-UTRAN System Simulator only		
68	Correct reading of a SM on the USIM if USIM and ISIM are present	Rel-7	8.2.5	N/A	N/A	N/A	N/A	C03 3	C03 3	C03 3	C03 3	C03 3	C03 3	C033	C033	C033	No		
69	Correct reading of a SM on the ISIM if USIM and ISIM are present	Rel-7	8.2.6	N/A	N/A	N/A	N/A	C03 4	C03 4	C03 4	C03 4	C03 4	C03 4	C034	C034	C034	No		
70	UE recognising the priority order of MMS Issuer Connectivity Parameters	Rel-4	8.3.1	N/A	C01 6	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C017	C017	C017	E-UTRAN System Simulator or UMTS System Simulator or System Simulator only		
71	UE recognising the priority order of MMS User Connectivity Parameters	Rel-4	8.3.2	N/A	C01 6	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C017	C017	C017	E-UTRAN System Simulator or UMTS System Simulator or System Simulator only		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
72	UE recognising the priority order of MMS Issuer Connectivity Parameters over the MMS User Connectivity Parameters	Rel-4	8.3.3	N/A	C01 6	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C01 7	C017	C017	C017	E-UTRAN System Simulator or UMTS System Simulator or System Simulator only		
73	Usage of MMS notification	Rel-4	8.3.4	N/A	C01 8	C01 8	C01 8	C018	C018	C018	E-UTRAN System Simulator or UMTS System Simulator or System Simulator only								
74	UICC presence detection	Rel-5	8.4	N/A	N/A	М	М	М	C04 9	C04 9	C04 9	C04 9	C04 9	C049	C049	C049	UMTS System Simulator or System Simulator only		AER001
75	UICC presence detection when connected to E- UTRAN/EPC	Rel-8	8.5	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
76	Access Point Control List handling for terminals supporting ACL	R99	9.1.1	N/A	N/A	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C019	C019	C019	UMTS System Simulator or System Simulator only		AER002
77	Network provided APN handling for terminals supporting ACL	R99	9.1.2	N/A	N/A	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C01 9	C019	C019	C019	UMTS System Simulator or System Simulator only		AER002

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
78	Access Point Control List handling for terminals not supporting ACL	R99	9.1.3	N/A	N/A	C02 0	C02 0	C02 0	C02 0	C02 0	C02 0	C02 0	C02 0	C020	C020	C020	UMTS System Simulator or System Simulator only		AER002
79	Access Point Control List handling for terminals supporting ACL connected to E- UTRAN/EPC	Rel-8	9.1.4	N/A	N/A	N/A	N/A	N/A	C05 0	C05 0	C05 0	C05 0	C05 0	C050	C050	C050	E-UTRAN System Simulator only		
80	Void		9.1.5																
81	Void		9.1.6																
82	Service Dialling Numbers handling	R99	9.2	N/A	N/A	N/A	C02 1	C02 1	C02 1	C02 1	C02 1	C02 1	C02 1	C021	C021	C021	UMTS System Simulator or System Simulator only		
83	Automatic CSG selection in E-UTRA with CSG list on USIM, success	Rel-8	10.1.1	N/A	N/A	N/A	N/A	N/A	C02 8	C02 8	C02 8	C02 8	C02 8	C028	C028	C028	E-UTRAN System Simulator only		
84	Automatic CSG selection in E-UTRA with CSG list on USIM, removal of CSG ID from the USIM	Rel-8	10.1.2	N/A	N/A	N/A	N/A	N/A	C02 8	C02 8	C02 8	C02 8	C02 8	C028	C028	C028	E-UTRAN System Simulator only		

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
85	Manual CSG selection in E-UTRA with CSG list on USIM, success	se Rel-8	10.1.3	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		
86	Manual CSG selection in E-UTRA with CSG list on USIM, rejected	Rel-8	10.1.4	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		
87	CSG selection in E-UTRA with no CSG list on USIM, no IMSI change	Rel-8	10.1.5	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		
88	CSG selection in E-UTRA with no CSG list on USIM, with IMSI change	Rel-8	10.1.6	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		
89	NAS security context parameter handling when service "EMM Information" is available	Rel-8	11.1	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulatoror NB System Simulator (See Note 2)		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
90	NAS security context parameter handling when service "EMM Information" is not available, no IMSI change	Rel-8	11.2	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		
91	NAS security context parameter handling when service "EMM Information" is not available, IMSI changed	Rel-8	11.3	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulatoror NB System Simulator (See Note 2)		
92	CSG Type display test	Rel-8															TBD		
93	Home NodeB Name display test	Rel-8															TBD		
94	Manual CSG selection without display restrictions in E-UTRA with ACSG list and OCSG list on USIM	Rel-9	10.1.7	N/A	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	ReI -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
95	Manual CSG selection with display restrictions in E-UTRA with ACSG list and OCSG list on USIM	Rel-9	10.1.8	N/A	N/A	N/A	N/A	N/A	N/A	C03 8	C03 8	C03 8	C03 8	C038	C038	C038	E-UTRAN System Simulator only		
96	Manual CSG selection without display restrictions in UTRA with ACSG list and OCSG list on USIM	Rel-9	10.2.1	N/A	N/A	N/A	N/A	N/A	N/A	C03 7	C03 7	C03 7	C03 7	C037	C037	C037	UTRAN System Simulator only		
97	Manual CSG selection with display restrictions in UTRA with ACSG list and OCSG list on USIM	Rel-9	10.2.2	N/A	N/A	N/A	N/A	N/A	N/A	C03 7	C03 7	C03 7	C03 7	C037	C037	C037	UTRAN System Simulator only		
98	Manual CSG selection in UTRA with CSG list on USIM, success	Rel-8	10.2.3	N/A	N/A	N/A	N/A	N/A	C03 7	C03 7	C03 7	C03 7	C03 7	C037	C037	C037	UTRAN System Simulator only		
99	EPS NAS Security Context Storage	Rel-8	11.4	N/A	N/A	N/A	N/A	N/A	C02 7	C02 7	C02 7	C02 7	C02 7	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
100	EFNASCONFIG – NAS signaling priority handling	Rel-10	12.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
101	EFNASCONFIG - NMO I Network Mode of Operation I handling	Rel-10	12.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
102	Void	Rel-10	12.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
103	EFNASCONFIG — Verifying Minimum Periodic Search Timer	Rel-10	12.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
104	EFNASCONFIG — Extended access barring handling	Rel-10	12.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
105	EFNASCONFIG – Verifying Timer T3245 Behaviour	Rel-10	12.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C04 3	C043	C043	C043	UTRAN System Simulator		
106	EFNASCONFIG — Override NAS signalling low priority	Rel-11	12.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C041	C041	C041	UTRAN System Simulator		
107	EF _{NASCONFIG} – Override Extended access barring	Rel-11	12.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C044	C044	C044	UTRAN System Simulator		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
108	EFNASCONFIG – Fast First Higher Priority PLMN Search	Rel-12	12.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NOT E1	NOT E1	NOT E1	UTRAN System Simulator		
109	EFNASCONFIG — E-UTRA Disabling Allowed for EMM cause #15	Rel-12	12.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C040 AND C048 AND C027	C040 AND C048 AND C027	C040 AND C048 AND C027	E-UTRAN System Simulator AND UTRAN System Simulator		
110	EFNASCONFIG – SM_RetryWai tTime	Rel-12	12.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C042	C042	C042	UTRAN System Simulator		
111	EFNASCONFIG – SM_RetryAtR ATChange	Rel-12	12.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No		
112	Correct storage of an SM on the UICC	Rel-13	8.2.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C046	C046	C046	NB System Simulator only		
113	Access Control information handling for NB-IoT	Rel-13	5.2.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C046	C046	C046	NB System Simulator only		
114	Updating the Forbidden PLMN list after receiving non-integrity protected reject message – UTRAN	Rel-13	7.1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C048	C048	C048	UMTS System Simulator		AER006

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
115	Updating the Forbidden PLMN list after receiving non-integrity protected reject message – E-UTRAN	Rel-13	7.1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C045	C045	C045	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER006
116	UICC interface in PSM handling for E-UTRAN – No UICC deactivation in PSM	Rel-13	13.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C051	C051	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER007 AER009
117	UICC interface in PSM handling for E-UTRAN – PSM not accepted by E-USS/NB- SS	Rel-13	13.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C051	C051	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER007 AER009
118	UICC interface in PSM handling for E-UTRAN – UICC deactivation in PSM	Rel-13	13.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C051	C051	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER007 AER009
119	UICC interface in PSM for E- UTRAN – SUSPEND UICC	Rel-14	13.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C053	C053	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER007 AER009

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
120	UICC interface during eDRX for E-UTRAN – eDRX is not supported by the UICC	Rel-13	14.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C052	C052	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER008 AER010
121	UICC interface during eDRX for E-UTRAN – eDRX is not accepted by E-USS/NB- SS	Rel-13	14.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C052	C052	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER008 AER010
122	UICC interface during eDRX for E-UTRAN – UICC deactivation during eDRX	Rel-13	14.3	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	C052	C052	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER008 AER010
123	UICC interface during eDRX for E- UTRAN– SUSPEND UICC	Rel-14	14.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C054	C054	E-UTRAN System Simulator or NB System Simulator (See Note 2)		AER008 AER010

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
124	UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list – E-UTRAN in NB-S1 mode	Rel-14	7.3.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C022 AND C046	C022 AND C046	NB System Simulator		
125	UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in NB-S1/E- UTRAN in WB-S1 mode	Rel-14	7.3.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C027 AND C046	C027 AND C046	E-UTRAN System Simulator and NB System Simulator		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
126	UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in NB-S1 mode/ GSM	Rel-14	7.3.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C046 AND C055	C046 AND C055	NB System Simulator and System Simulator		
127	UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in WB-S1 mode/GSM	Rel-14	7.3.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C027 AND C055	C027 AND C055	E-UTRAN and System Simulator		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
128	UE recognising the priority order of the User controlled PLMN selector list with the same access technology — E-UTRAN in NB-S1 mode	Rel-14	7.2.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C022 AND C046	C022 AND C046	NB System Simulator		
129	UE recognising the priority order of the User controlled PLMN selector list using the ACT preference — E-UTRAN in WB-S1/E- UTRAN in NB-S1	Rel-14	7.2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C022 AND C027 AND C046	C022 AND C027 AND C046	E-UTRAN System Simulator and NB System Si mu lat or		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp	Additional test case execution recommenda tion
130	UE recognising the priority order of the Operator controlled PLMN selector list when accessing E- UTRAN in NB-S1 mode	Rel-14	7.3.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C046	C046	NB System Simulator		
131	SUCI calculation by ME using null scheme	Rel-15	5.3.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
132	SUCI calculation by ME using Profile B	Rel-15	5.3.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
133	UE identification by SUCI during initial registration – SUCI calculation by USIM	Rel-15	5.3.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
134	UE identification by SUCI in response to IDENTITY REQUEST message	Rel-15	5.3.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	-5	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
135	UE identification by SUCI in response to IDENTITY REQUEST message with T3519 timer expiry	Rel-15	5.3.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
136		Rel-15	5.3.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
137	calculation by the ME using null scheme – missing parameters for subscription identifier privacy support by the USIM	Rel-15	5.3.7	N/A			N/A	N/A			N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
138		Rel-15	5.3.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		

Item	Description	Teste d featur e define d in Relea se	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
139	UE identification by 5G-GUTI – Last Registered TAI stored by ME	Rel-15	5.3.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
140	UE identification UE identification after SUPI is changed	Rel-15	5.3.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
141	SUCI calculation by ME using Profile A	Rel-15	5.3.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
142	Unified Access Control – Access identity 0, no access identities indicated by USIM	Rel-15	5.4.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
143	Unified Access Control – Access Identity 1 – MPS indicated by USIM	Rel-15	5.4.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
144	FFS		5.4.3																
145	FFS		5.4.4																

Item	Description	Teste d featur e define d in Relea	Test sequenc e(s)	R99 ME	Rel -4 ME	Rel -5 ME	Rel -6 ME	Rel -7 ME	Rel -8 ME	Rel -9 ME	Rel -10 ME	Rel -11 ME	Rel -12 ME	Rel- 13 ME	Rel- 14- ME	Rel- 15 ME	Network Dependency	Supp ort	Additional test case execution recommenda tion
146	Unified Access Control – Access Identity 2 – MCS indicated by USIM	Rel-15	5.4.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
147	FFS		5.4.6																
148	FFS		5.4.7																
149	Unified Access Control – Access Identities 11 and 15 indicated by USIM	Rel-15	5.4.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
150	Unified Access Control – Access Identities 12, 13 and 14 indicated by USIM	Rel-15	5.4.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C056	NG-SS		
151	FFS		5.4.10																
152	FFS		5.4.11																
146																			

Table B.1: Applicability of tests (continued)

C001	(NOT A.1/3) AND A.1/4	(NOT O_UTRAN) AND O_GERAN
C002	A.1/1 AND A.1/3	O_CS AND O_UTRAN

C003	A.1/3 AND A.1/4	O_UTRAN AND O_GERAN
C004	IF (C001 OR C002) THEN M ELSE N/A	((NOT O_UTRAN) AND O_GERAN) OR (O_CS AND O_UTRAN)
C005	IF A.1/2 THEN M ELSE N/A	O_PIN2_ENTRY_FEAT
C006	IF (C001 OR C002) AND A.1/5 AND A.1/18 THEN M ELSE N/A	(((NOT O_UTRAN) AND O_GERAN) OR (O_CS AND O_UTRAN) AND O_FDN AND O_Speech_Calls
C007	IF (C001 OR C002) AND A.1/6 AND A.1/18 THEN M ELSE N/A	(((NOT O_UTRAN) AND O_GERAN) OR (O_CS AND O_UTRAN)) AND O_AoCC AND O_Speech_Calls
C008	IF (C001 OR C002) AND A.1/6 AND A.1/18 THEN O.1 ELSE N/A	(((NOT O_UTRAN) AND O_GERAN) OR (O_CS AND O_UTRAN)) AND O_AoCC AND O_Speech_Calls
C009	IF C003 THEN M ELSE N/A	O_UTRAN AND O_GERAN
C010	IF (C001 OR (A.1/3 AND (NOT A.1/4)) OR (C003 AND (NOT A.1/7))) THEN M ELSE N/A	((NOT O_UTRAN) AND O_GERAN) OR (O_UTRAN AND (NOT O_GERAN)) OR (O_UTRAN AND O_GERAN AND (NOT O_HPLMNWACT))
C011	IF C003 AND A.1/7 THEN M ELSE O	O_UTRAN AND O_GERAN AND O_HPLMNwACT
C012	IF A.1/8 THEN M ELSE N/A	O_Local_PB
C013	IF A.1/9 THEN M ELSE N/A	O_Global_PB
C014	IF A.1/8 AND A.1/9 THEN M ELSE N/A	O_Local_PB AND O_Global_PB
C015	IF A.1/10 AND (A.1/3 OR A.1/4) THEN M ELSE N/A	O_Store_Received_SMS AND (O_UTRAN OR O_GERAN)
C016	IF A.1/11 AND A.1/12 AND A.1/13 THEN M ELSE N/A	O_MMS AND O_MMS_USIM_DATA AND O_NO_USER_MMS_CONF_SELEC
C017	IF A.1/11 AND A.1/13 THEN M ELSE N/A	O_MMS AND O_NO_USER_MMS_CONF_SELEC
C018	IF A.1/11 AND A.1/14 THEN M ELSE N/A	O_MMS AND O_MMS_NOTIF_STORAGE
C019	IF A.1/15 AND (A.1/3 OR A.1/4) THEN M ELSE N/A	O_ACL AND (O_UTRAN OR O_GERAN)
C020	IF (NOT A.1/15) AND (A.1/3 OR A.1/4)M ELSE N/A	(NOT O_ACL) AND (O_UTRAN OR O_GERAN)
C021	IF A.1/16 THEN M ELSE N/A	O_SDN

C022	IF A.1/17 THEN M ELSE N/A	O_EFPLMNwACT_numerical entry
C023	IF A.1/18 THEN M ELSE N/A	O_Speech_Calls
C024	IF C004 AND A.1/18 THEN M ELSE N/A	((NOT O_UTRAN) AND O_GERAN) OR (O_CS AND O_UTRAN) AND O_Speech_Calls
C025	IF A.1/19 THEN "Expected Sequence A" M ELSE "Expected Sequence B" M	O_PIN_MMI_Strings
C026	IF A1/2 AND A.1/19 THEN "Expected Sequence A" M	(O_PIN2_ENTRY_FEAT AND O_PIN_MMI_Strings)
C027	IF (A.1/20 OR A.1/21) THEN M ELSE N/A	pc_eFDD OR pc_eTDD
C028	IF (A.1/20 OR A.1/21) AND A.1/22 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD) AND pc_Allowed_CSG_list
C029	Void	
C030	Void	
C031	IF (A.1/10 AND A.1/23 AND (A.1/20 OR A.1/21)) THEN M ELSE N/A	 O_Store_Received_SMS AND pc_SM-over-IP receiver AND (pc_eFDD OR pc_eTDD)
C032	IF A.1/10 AND A.1/23 AND A.1/3 THEN M ELSE N/A	O_Store_Received_SMS AND pc_SM-over-IP receiver AND O_UTRAN
C033	IF A.1/24 THEN M ELSE N/A	pc_USIM_EF_SMS_reading_support_if_USIM_ISIM both present
C034	IF A.1/25 THEN M ELSE N/A	pc_ISIM_EF_SMS_reading_support_if_USIM_ISIM both present
C035	IF (A.1/10 AND NOT A.1/26 AND (A.1/3 OR A.1/4)) THEN M ELSE N/A	O_Store_Received_SMS AND NOT O_LARGE_SMS_STORAGE AND (O_UTRAN OR O_GERAN)
C036	IF (A.1/20 OR A.1/21) AND A.1/27 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD) AND pc_Multiple_PDN
C037	IF A.1/3 AND A.1/28 AND A.1/29 AND NOT ((A.1/20 OR A.1/21) AND A.1/22) THEN M ELSE N/A	O_UTRAN AND pc_CSG AND pc_manual_CSG_selection AND NOT ((pc_eFDD OR pc_eTDD) AND pc_Allowed_CSG_list)
C038	IF (A.1/20 OR A.1/21) AND A.1/22 AND A.1/29 THEN M ELSE N/A	 (pc_eFDD OR pc_eTDD) AND pc_Allowed_CSG_list AND pc_manual_CSG_selection
C039	IF A.1/1 AND A.1/30 THEN M ELSE N/A	O_CS AND O_PS
C040	IF A.1/33 THEN M ELSE N/A	O_EUTRA_Disabling_EMM_cause#15

64

C041	IF A.1/3 AND A.1/34 THEN M ELSE N/A	O_UTRAN AND O_Override_NAS_signalling_low_priority
C042	IF A.1/3 AND A.1/30 THEN M ELSE N/A	O_UTRAN AND O_PS
C043	IF A.1/3 AND A.1/35 THEN M ELSE N/A	O_UTRAN AND O_T3245
C044	IF A.1/3 AND A.1/36 THEN M ELSE N/A	O_UTRAN AND O_Override_EAB
C045	IF A.1/20 OR A.1/21 OR A.1/37 THEN M ELSE N/A	pc_eFDD OR pc_eTDD OR pc_NB
C046	IF A.1/37 THEN M ELSE N/A	pc_NB
C047	IF (A.1/3 OR A.1/4) AND NOT A.1/38 THEN M ELSE N/A	(O_UTRAN OR O_GERAN) AND NOT O_PLMN_specific_attempt_counters
C048	IF A.1/3 THEN M ELSE N/A	O_UTRAN
C049	IF A.1/3 OR A.1/4 THEM M ELSE N/A	O_UTRAN OR O_GERAN
C050	IF A.1/15 AND (A.1/20 OR A.1/21) THEN M ELSE N/A	O_ACL AND (pc_eFDD OR pc_eTDD)
C051	IF (A.1/20 OR A.1/21 OR A.1/37) AND A.1/39 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD OR pc_NB) AND O_PSM_DEAC_UICC
C052	IF (A.1/20 OR A.1/21 OR A.1/37) AND A.1/40 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD OR pc_NB) AND O_eDRX_DEAC_UICC
C053	IF (A.1/20 OR A.1/21 OR A.1/37) AND A.1/41 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD OR pc_NB) AND O_PSM_ SUSPEND_UICC
C054	IF (A.1/20 OR A.1/21 OR A.1/37) AND A.1/42 THEN M ELSE N/A	(pc_eFDD OR pc_eTDD OR pc_NB) AND O_eDRX_ SUSPEND_UICC
C055	IF A.1/4 THEN M ELSE N/A	O_GERAN
C056	IF A.1/43 AND A.1/44 THEN M ELSE N/A	pc_5GC AND pc_NR
O.1	IF C002 THEN "Expected Sequence A" M ELSE IF C001 THEN "Expected Sequence B" M	
AER001	IF (A.1/20 OR A.1/21) AND ((A.1/3 OR A.1/4) AND (NOT A.1/18) THEN R ELSE	(pc_eFDD OR pc_eTDD) AND (O_UTRAN OR O_GERAN) AND (NOT O_Speech_Calls)
AER002	A IF (A.1/20 OR A.1/21) AND (A.1/3 OR A.1/4) THEN R ELSE A	(pc_eFDD OR pc_eTDD) AND (O_UTRAN OR O_GERAN)

AER003	IF (test 8.2.3 has been PASSED) THEN	
	R ELSE A	
AER004	IF (test 8.2.5 has been PASSED) THEN	
	R ELSE A	
AER005	IF (NOT A.1/3) AND A.1/4 AND (NOT	(NOT O_UTRAN) AND ((O_GERAN AND (NOT O_CS))
	A.1/1) THEN R ELSE A	
AER006	If A.1/38 is supported set the	
	implementation specific counter to small	
	value to reduce the test execution time.	
AER007	If A.1/39 is supported, in addition to the	
	test case initial conditions, any	
	specific information or particular	
	UE configurations required to	
	ensure that the UE performs	
	UICC deactivation in PSM shall	
	be provided by the UE	
. = = = = =	manufacturer.	
AER008	If A.1/40 is supported, in addition to the	
	test case initial conditions, any	
	specific information or particular	
	UE configurations required to	
	ensure that the UE performs UICC deactivation in eDRX shall	
	be provided by the UE manufacturer	
AER009	The value of timers T3324 (T3324_V)	
AEROOS	and T3412 (T3412_V) shall be provided	
	by the UE manufacturer and shall be set	
	to a value suitable for executing the test	
	cases.	
	0.000	
AER010	The value of eDRX (eDRX_V) and PTW	
	(PTW_V) parameters shall be provided	
	by the UE manufacturer and shall be set	
	to a value suitable for executing the test	
	cases.	
NOTE 1	Definition of applicability for this test case is	S FES
		test case shall be verified by accessing the NB System Simulator (NB-SS).
		the second secon

4 Default Values

All tests defined in the subsequent clauses apply to Terminals using card types specified in ETSI TS 102 221 [5], unless otherwise stated.

The following sequence of tests confirms:

- a) the correct interpretation of data read from the USIM (Universal Subscriber Identification Module) by the Terminal;
- b) the correct writing of data to the USIM by the Terminal;
- c) the initiation of appropriate procedures by the Terminal;
- d) High level protocols.

All tests apply to the USIM application on the UICC.

A USIM simulator will be required as part of the USS. Alternatively, to perform the logical tests, USIMs programmed with specific data may be used. The USIM data is not defined within the initial conditions of the tests unless it differs from the default values defined below.

4.1 Definition of default values for USIM-Terminal interface testing (Default UICC)

A USIM containing the following default values is used for all tests of this present document unless otherwise stated.

The service "Non-Access Stratum configuration by USIM" shall not be available unless otherwise specified.

For each data item, the logical default values and the coding within the elementary files (EF) of the USIM follow.

NOTE 1: Bx represents byte x of the coding.

NOTE 2: Unless otherwise defined, the coding values are hexadecimal.

4.1.1 Values of the EF's (Default UICC)

4.1.1.1 EF_{IMSI} (IMSI)

Logically: 2460813579

Coding: В1 B2 **B**3 B4 B5 B6 B7 **B8** B9 21 80 Hex 06 64 31 75 F9 FF FF

4.1.1.2 EF_{AD} (Administrative Data)

Logically: Normal operation

OFM to be deactivated by the Terminal

MNC: 3 digit

Coding: B1 B2 B3 B4 Hex 00 00 00 03

4.1.1.3 EF_{LOCI} (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

LAI-LAC: 0001 TMSI: "FF .. FF"

Coding: В9 B10 **B11 B**1 B2 **B**3 B4 **B5 B6 B7 B8** Hex FF FF FF FF 42 16 80 00 01 FF 00

4.1.1.4 EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 0x

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: В1 B2 **B3 B16 B17 B18 B30 B31 B32 B33** Hex 0x XXXX XXXX XX XX XX XXXX ...

4.1.1.5 EF_{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)

Logically: Key Set Identifier KSI: 0x

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: B1 B2 **B**3 B16 B17 **B18** B31 B32 **B33** Hex 0x XX XX XX XX XX XX XX XX . . .

4.1.1.6 EF_{ACC} (Access Control Class)

Logically: One and one access class from 0-9, e.g. class 7 for which the coding is "00 80".

4.1.1.7 EF_{FPLMN} (Forbidden PLMNs)

Besides of the 4 mandatory EF_{FPLMN} 2 optional EF_{FPLMN} are defined according to TS 31.102 [4], clause 4.2.16.

Logically: PLMN1: 234 001 (MCC MNC)

PLMN2: 234 002 PLMN3: 234 003 PLMN4: 234 004 PLMN5: 234 005 PLMN6: 234 006

B2 В3 B4 В5 В6 В7 В9 B10 B11 Coding: В1 **B8** B12 Hex 32 14 00 32 24 00 32 34 00 32 44 00

B13 B14 B15 B16 B17 B18 32 54 00 32 64 00

4.1.1.8 EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xxx
 xxxx xxxx

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

4.1.1.9 EF_{EST} (Enable Service Table)

Logically: Fixed Dialling Numbers (FDN) disabled.

Barred Dialling Numbers (BDN) disabled.

APN Control list (ACL) disabled

Coding: B1

binary 0000 0000

The coding of EF_{EST} shall conform with the capabilities of the USIM, unused Bits are set to '0'.

4.1.1.10 EF_{ADN} (Abbreviated Dialling Number)

Logically:

At least 10 records, each non empty record unique.

Record 1: Length of alpha identifier: 32 characters;

Alpha identifier: "ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEF";

Length of BCD number: "03";

TON and NPI: Telephony and Unknown;

Dialled number: 123; CCI: None; Ext1: None.

Record 1:

B2 **B33** B34 B35 B36 **B37** B38 B39 B46 Coding: **B1** R3 **B32** Hex 41 42 43 46 03 81 21 F3 FF FF FF FF

4.1.1.11 EF_{PLMNwACT} (User Controlled PLMN Selector with Access Technology)

Besides of the 8 mandatory PLMNwACT entries 4 optional PLMNwACT entries are defined according to TS 31.102 [4], clause 4.2.5. The Radio Access Technology identifier for the first two PLMN (1st PLMN and 2nd PLMN) are set to both UTRAN and GSM, all other PLMN to UTRAN only.

Logically: 1st PLMN: 244 081 (MCC MNC)

1st ACT: **UTRAN** 2nd PLMN: 244 081 2nd ACT: **GSM** 3rd PLMN: 244 082 3rd ACT: **UTRAN** 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: **UTRAN** 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 006 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008

10th ACT: **UTRAN** 11th PLMN: 244 009 11th ACT: **UTRAN** 12th PLMN: 244 010 12th ACT: **UTRAN** Coding: В3 В4 **B**5 В6 В7 В8 В9 B10 B11 B12 B13 B14 B15 В1 B2 Hex 42 14 80 80 00 42 14 80 00 80 42 24 80 80 00 B20 B22 B23 B26 B29 **B16 B17 B18 B19** B21 **B24 B25 B27 B28** B30 42 24 80 00 80 42 34 00 80 00 42 44 00 80 00 B38 B39 **B31 B32 B33 B34 B35 B36 B37** B40 B41 **B42 B43 B44** B45 42 54 00 80 00 42 64 00 80 00 42 74 00 80 00 **B46** B51 **B53 B47 B48** B49 B50 B52 **B54 B55 B56 B57 B58 B59** B60 42 84 00 80 00 42 94 00 80 00 42 04 10 80 00

4.1.1.12 EFOPLMNWACT (Operator Controlled PLMN Selector with Access Technology)

The Radio Access Technology identifier for the first PLMN is set to both UTRAN and GSM, the other remaining PLMNs to UTRAN only.

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: **UTRAN** 2nd PLMN: 254 001 2nd ACT: GSM 3rd PLMN: 254 002 3rd ACT: UTRAN 4th PLMN: 254 003 4th ACT: UTRAN 5th PLMN: 254 004 5th ACT: UTRAN 6th PLMN: 254 005 6th ACT: UTRAN 7th PLMN: 254 006

7th PLMN: 254 006 7th ACT: UTRAN 8th PLMN: 254 007 8th ACT: UTRAN

Coding: B01 B02 B03 B04 B05 B06 B07 B08 B09 B10 Hex 52 14 00 80 00 52 14 00 00 80 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 52 24 00 80 00 52 34 00 80 00 B21 B22 B23 B24 B25 **B26 B27 B28** B29 B30 52 44 00 80 00 52 54 00 80 00 **B35 B37 B38** B39 B40 **B31 B32 B33 B34 B36** 52 64 00 80 00 52 74 00 80 00

4.1.1.13 Void

4.1.1.14 PIN

Key reference: 01

Logically: 2468

Coding: B2 ВЗ В1 B4 B5 **B6** В7 **B8** Hex 32 34 36 38 FF FF FF FF

4.1.1.15 PIN2

Key reference: 81

Logically: 3579

B2 ВЗ B4 B5 B6 В7 В8 Coding: В1 FF FF FF Hex 33 35 37 39 FF

4.1.1.16 Unblock PIN

Key reference: 01

Logically: 13243546

B2 ВЗ B4 В5 В6 B7 В8 Coding: В1 Hex 31 33 32 34 33 35 34 36

4.1.1.17 Unblock PIN2

Key reference: 81

Logically: 08978675

Coding: В1 B2 В3 B4 **B**5 B6 В7 В8 30 38 39 37 38 36 37 35 Hex

4.1.1.18 Other Values of the USIM

All other values of Efs provided by the USIM shall be set to the default values defined in the annex E of TS 31.102 [4]. Some Efs (like the GSM Access files) may necessary for some tests and apply only to those test cases.

4.1.1.19 EFPSLOCI (Packet Switch Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 RAI-LAC: 0001 RAI-RAC: 05 P-TMSI: "FF....FF"

P-TMSI signature value: "FF...FF"

ВЗ B2 Coding: В1 B4 B5 B6 B7 **B8** B9 B10 B11 FF FF FF FF FF FF Hex FF 42 16 80 00

Coding: B12 B13 B14 Hex 01 05 00

4.1.1.20 Universal PIN

Key reference: 11

Logically: 2839

Coding: В1 B2 ВЗ B4 **B**5 B6 В7 В8 FF FF Hex 32 38 33 39 FF FF

4.1.1.21 Unblock Universal PIN

Key reference: 11

Logically: 02030405

В3 Coding: В1 B2 B4 **B**5 **B6 B7 B8** Hex 30 32 33 30 34 30 35 30

4.2 Definition of FDN UICC

The FDN test cases require a different configuration than the one described in clause 4.1. For that purpose a default FDN UICC is defined. In general the values of the FDN UICC are identical to the default UICC, with the following exceptions.

4.2.1 Values of the EF's (FDN UICC)

4.2.1.1 EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available Fixed dialling numbers available

Barred dialling numbers available
The GSM Access available

The Group Identifier level 1 and level 2 not available. Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xxx1

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

4.2.1.2 EF_{EST} (Enable Service Table)

Logically: Fixed Dialling Numbers enabled.

Barred Dialling Numbers disabled. APN Control list (ACL) disabled.

Coding: B1

Binary 0000 0001

The coding of EF_{EST} shall conform with the capabilities of the USIM, unused Bits are set to '0'...

4.2.1.3 EF_{FDN} (Fixed Dialling Numbers)

Logically:

Record 1: Length of alpha identifier: 6 characters;

Alpha identifier: "FDN111"; Length of BCD number: "06";

TON and NPI: Telephony and International;

Dialled number: +1357924680;

CCI2: None; Ext2: None.

Coding for record 1:

Hex	B1 46	B2 44	B3 4E		B5 31	-	B7 06	-	_	B10 75	B12 64	B13 08
	B14 FF	B15 FF	_	B17 FF	_	B19 FF	B20 FF					

Record 2: Length of alpha identifier: 6 characters;

Alpha identifier: "FDN222"; Length of BCD number: "04";

TON and NPI: Telephony and Unknown;

Dialled number: 24680; CCI2: None; Ext2: None.

Coding for record 2:

Hex	B1 46		_	B4 32	_	_	B7 04	_	_	_	B12 FF	_
	B14 FF	B15 FF	_	B17 FF	_	B19 FF	B20 FF					

Record 3: Length of alpha identifier: 6 characters;

Alpha identifier: "FDN333"; Length of BCD number: "0B";

TON and NPI: Telephony and International; bialled number: +12345678901234567890;

CCI2: None; Ext2: None.

Coding for record 3:

Hex	B1 46		-		_	-		_	_	B10 43	B12 87	B13 09
	B14 21	_	B16 65	B17 87	_	B19 FF	B20 FF					

4.2.1.4 EF_{ECC} (Emergency Call Codes)

Logically: Emergency call code: "122"; Emergency call code alpha identifier: "TEST";

Emergency call Service Category: Mountain Rescue.

Coding: **B**5 B8 **B**1 B2 **B**3 B4 B6 **B7** FF Hex 21 F2 54 45 53 54 10

4.2.1.5 Other Values of the USIM

All other values of Efs provided by the USIM shall be set to the default values defined in the annex E of TS 31.102 [4]. Some Efs (like the GSM Access files) may necessary for some tests and apply only to those test cases.

4.3 Void

4.4 Definition of E-UTRAN/EPC UICC

The E-UTRAN/EPC test cases require a different configuration than the one described in clause 4.1. For that purpose a default E-UTRAN/EPC UICC is defined. In general the values of the E-UTRAN/EPC UICC are identical to the default UICC, with the following exceptions:

4.4.1 EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available Allowed CSG Lists and corresponding indications

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xxxx	xxxx xxxx	xxxx xxxx
	B9 xxxx xxxx	B10 xxxx xxxx	B11 xx11 xxxx					

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

4.4.2 EFEPSLOCI (EPS Information)

Logically: 24608100010266431122

Last visited registered TAI: 246/081/0001

EPS update status: not updated

Byte: Hex:	B1 0B		_	B4 16		B6 00		B8 02	B9 66	B10 43	B11 11
	B12 22	B13 42	B14 16	B15 80	B16 00	B17 01	B18 01				

4.4.3 EFPLMNWACT (User Controlled PLMN Selector with Access Technology)

Besides of the 8 mandatory PLMNwACT entries 4 optional PLMNwACT entries are defined according to TS 31.102 [4], clause 4.2.5. The Radio Access Technology identifiers are set either to E-UTRAN only, UTRAN only or GSM only.

Logically: 1st PLMN: 244 081 (MCC MNC)

 1st ACT:
 E-UTRAN

 2nd PLMN:
 244 081

 2nd ACT:
 GSM

 3rd PLMN:
 244 083

 3rd ACT:
 E-UTRAN

 4th PLMN:
 244 082

 4th ACT:
 GSM

Coding:

Hex

B1

42

B16

42

B31

B46

42

42

5th PLMN: 244 003 5th ACT: E-UTRAN 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 081 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: E-UTRAN 11th PLMN: 244 009 11th ACT: UTRAN 12th PLMN: 244 010 12th ACT: E-UTRAN B2 **B**3 В4 **B7 B8** В9 B10 **B14** B15 **B5** B6 B11 **B12 B13** 40 00 14 80 00 42 14 80 00 80 42 34 80 40 B17 B18 B19 B20 B21 B22 B23 **B24** B25 B26 **B27 B28** B29 B30 24 80 00 80 42 34 00 40 00 42 44 00 80 00 **B32 B33 B34 B35 B36 B37 B38 B39** B40 B42 B41 **B43 B44 B45** 54 80 00 42 14 80 80 00 42 74 00 80 00 00 **B47** B48 B49 B50 B51 B52 **B53 B54 B55 B**56 **B57 B58** B59 B60 84 00 40 00 94 00 80 00 42 00 42 04 10 40

4.4.4 EFOPLMNWACT (Operator Controlled PLMN Selector with Access Technology)

The Radio Access Technology identifier for the first PLMN is set to both UTRAN and GSM, the other remaining PLMNs to UTRAN only or E-UTRAN only.

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: E-UTRAN 2^{nd} PLMN: 254 001 2^{nd} ACT: GSM 3rd PLMN: 254 002 3rd ACT: E-UTRAN 4th PLMN: 254 003 4th ACT: E-UTRAN 5th PLMN: 254 004 5th ACT: UTRAN 6th PLMN: 254 005 6th ACT: UTRAN 254 006 7th PLMN:

7th ACT: UTRAN 8th PLMN: 254 007 8th ACT: UTRAN

Coding: B01 B02 B03 B04 B05 B06 B07 B08 B09 B10 Hex 52 14 00 40 00 52 14 00 00 80 B11 B12 B13 B14 **B15 B16 B17 B18** B19 B20 52 24 00 40 00 52 00 40 00 34 B21 **B22 B23 B24 B25 B26 B27 B28 B29 B30** 52 44 00 80 00 52 54 00 80 00 B31 B32 B33 B34 **B35** B36 B37 B38 B39 B40 52 80 52 74 00

4.4.5 EFACSGL (Allowed CSG Lists)

For testing 2 CSG lists are defined and stored together in record one.

Logically:

1st CSG list

 $\begin{array}{lll} PLMN: & 246\ 081\ (MCC\ MNC) \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ Type\ indication\ 02 \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ HNB\ Name\ indication\ 02 \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ ID:\ 02\ (27bit) \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ Type\ indication\ 03 \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ HNB\ Name\ indication\ 03 \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ CSG\ ID:\ 03\ (27bit) \\ \end{array}$

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	A0	15	80	03	42	16	80	81	06	02
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	02	00	00	00	5F	81	06	03	03	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	00	00	7F	A0	0D	80	03	42	14	80
	B31	B32	B33	B34	B35	B36	B37	B38	B39	
	81	06	08	08	00	00	01	1F	FF	FF
	Вхх									
	FF									

All other records are empty.

4.4.6 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								

Record 2:

Logically: Group TWO

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	54	00	57	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	4F	FF								

Record 3:

Logically: Group THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	54	00	48	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	00	45	00	45	FF	FF	FF	FF	FF

Record 4:

Logically: Group FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	46	00	4F	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	55	00	52	FF						

Record 5:

Logically: Group FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	46	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	FF						

Record 6:

Logically: Group SIX

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	53	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	58	FF								

Record 7:

Logically: Group SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	53	00	45	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	00	4E	FF	FF	FF	FF	FF

Record 8:

Logically: Group EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	45	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	47	00	48	00	54	FF	FF	FF	FF	FF

4.4.7 EF_{HNBN} (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									

Record 2:

Logically: Home TWO

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	54	00	57	00	4F	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 3:

Logically: Home THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	54	00	48	00	52	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	45	FF						

Record 4:

Logically: Home FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	4F	00	55	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	FF								

Record 5:

Logically: Home FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	49	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	FF								

Record 6:

Logically: Home SIX

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	53	00	49	00	58	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 7:

Logically: Home SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	53	00	45	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	4E	FF						

Record 8:

Logically: Home EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	45	00	49	00	47	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	48	00	54	FF						

EFEPSNSC (EPS NAS Security Context) 4.4.8

Logically: Key Set Identifier KSI_{ASME}: '07' (no key available)

ASME Key (KSI_{ASME}): 32 byte key, any value'FF' (not available)

Uplink NAS count: '00' Downlink NAS count: '01' Identifiers of selected NAS '01' integrity and encryption

algorithm

Byte:	B1	B2	B3	B4	B5	B6	B7	B8		B39
Coding:	A0	34	80	01	07	81	20	XX		xx
Byte:	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49
Coding:	82	04	00	00	00	00	83	04	00	00
Byte:	B50	B51	B52	B53	B54					•
Coding:	00	01	84	01	01					

4.5 Definition of E-UTRAN/EPC ISIM-UICC

4.5.1 Applications on the E-UTRAN/EPC ISIM-UICC

The E-UTRAN/EPC ISIM-UICC shall contain a USIM as defined in clause 4.5.2 and an ISIM as defined in clause 4.5.3.

4.5.2 Default USIM values on E-UTRAN/EPC ISIM-UICC

The E-UTRAN/EPC ISIM-UICC related test cases require a USIM to access the E-UTRAN/EPC. For this purpose the USIM shall be configured as defined in clause 4.4.

4.5.3 Default ISIM values on E-UTRAN/EPC ISIM-UICC

The E-UTRAN/EPC ISIM-UICC shall contain an ISIM for IMS access with the following values:

4.5.3.1 EF_{AD} (Administrative Data)

Logically: Normal Operation

Byte:	B1	B2	В3
Coding:	00	00	00

4.5.3.2 EFIST (ISIM Service Table)

Logically:

(Service 01) P-CSCF Address: available

(Service 02) Generic Bootstrapping: not available

(Service 03) HTTP Digest: not available

(Service 04) GBA Based Local Key Establishment Mechanism:not available

(Service 05) Support for P-CSCF discovery for IMS local breakout: not available

(Service 06) Short Message Storage (SMS): available

(Service 07) Short Message Status Reports (SMSR): available

(Service 08) Support for SM-over-IP: available

Byte	B1
Coding:	111x xxx1

4.5.3.3 EF_{IMPI} (IMS private user identity)

Logically: 001010123456789@test.3gpp.com

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	1D	30	30	31	30	31	30	31	32
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	33	34	35	36	37	38	39	40	74	65
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	73	74	2E	33	67	70	70	2E	63	6F
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	6D	FF								

4.5.3.4 EF_{DOMAIN} (Home Network Domain Name)

Logically: test.3gpp.com

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	0D	74	65	73	74	2E	33	67	70
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	70	2E	63	6F	6D	FF	FF	FF	FF	FF

4.5.3.5 EFIMPU (IMS public user identity)

Record 1:

Logically: sip:001010123456789@ims.mnc246.mcc081.3gppnetwork.org

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	35	73	69	70	3A	30	30	31	30
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	31	30	31	32	33	34	35	36	37	38
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	39	40	69	6D	73	2E	6D	6E	63	32
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	34	36	2E	6D	63	63	30	38	31	2E
	B41	B42	B43	B44	B45	B46	B47	B48	B49	B50
	33	67	70	70	6E	65	74	77	6F	72
	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	6B	2E	6F	72	67	FF	FF	FF	FF	FF

Record 2: Logically: sip:+11234567890@test.3gpp.com

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	1E	73	69	70	3A	2B	31	31	32
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	33	34	35	36	37	38	39	30	40	74
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	65	73	74	2E	33	67	70	70	2E	63
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	6F	6D	FF							
	B41	B42	B43	B44	B45	B46	B47	B48	B49	B50
	FF									
	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	FF									

Record 3:

Logically: sip: user@test.3gpp.com

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	16	73	69	70	3A	75	73	65	72
,	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	40	74	65	73	74	2E	33	67	70	70
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	2E	63	6F	6D	FF	FF	FF	FF	FF	FF
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	FF									
	B41	B42	B43	B44	B45	B46	B47	B48	B49	B50
	FF									
	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	FF									

4.5.3.6 EF_{P-CSCF} (P-CSCF ADDRESS)

Logically:

Address Type: FQDN

P-CSCF Address: pcscf1.anyims.test.3gpp.com

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	1C	00	70	63	73	63	66	31	2E
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	61	6E	79	69	6D	73	2E	74	65	73
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	74	2E	33	67	70	70	2E	63	6F	6D
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	FF									

Note: This EF does not apply for 3GPP and shall not be used by a terminal using a 3GPP access network or a 3GPP Interworking WLAN.

4.5.3.7 EF_{SMS} (Short Message Service)

At least 10 records.

All records shall be empty.

Logically: Status byte set to empty.

Record 1-x ($x \ge 10$):

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Coding:	00	FF	FF	FF	 FF								

4.5.3.8 EF_{SMSR} (Short message status reports)

This EF shall contain as many records as EF $_{SMS}.$

All records shall be empty.

Logically: Status byte set to empty.

Record 1-x ($x \ge 10$):

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	00	FF								
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	FF									
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

4.5.3.9 EF_{SMSP} (Short message service parameters)

Logically:

Record 1:

Record length: 28 bytes Parameter Indicators:

TP-Destination Address: Parameter absent TS-Service Centre Address: Parameter present TP-Protocol Identifier: Parameter absent TP-Data Coding Scheme: Parameter absent

TP-Validity Period: Parameter absent

TS-Service Centre Address:

TON: International Number

NPI: "ISDN / telephone numbering plan" Dialled number string: "112233445566778"

Byte:	B1	B2	В3		B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23
Coding:	FD	FF	FF		FF	09	91	11	22	33	44	55	66	77	F8
	B24	B25	B26	B27	B28										
	FF	FF	FF	FF	FF										

All other records shall be empty.

4.5.3.10 EF_{SMSS} (SMS Status)

Logically: Last used TP-MR set to "00".

Memory capacity available (flag unset b1="1").

Byte:	B1	B2
Coding:	00	FF

4.5.4 Default values at DF_TELECOM

4.5.4.1 EFPSISMSC (Public Service Identity of the SM-SC)

1 record only.

Logically: Record 1:

Public Service Identity of the SM-SC: <u>tel:+112233445566778</u>

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	14	74	65	6C	3A	2B	31	31	32
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	32	33	33	34	34	35	35	36	36	37
	B21	B22	B23	B24	B25	B26	B27	B28		Bxx
	37	38	FF	FF	FF	FF	FF	FF		FF

4.6 Definition of ACSGL/OCSGL E-UTRAN/EPC UICC

The ACSGL/OCSGL E-UTRAN/EPC test cases require a different configuration than the one described in clause 4.4. For that purpose a default ACSGL/OCSGL E-UTRAN/EPC UICC is defined. In general the values of the ACSGL/OCSGL E-UTRAN/EPC UICC are identical to the E-UTRAN/EPC UICC, with the following exceptions:

4.6.1 EFUST (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available Allowed CSG Lists and corresponding indications Operator CSG Lists and corresponding indications

Support of CSG Display Control

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xx1x xx11	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX

B9	B10	B11	B12
XXXX XXXX	XXXX XXXX	xx11 xxxx	xxxx 1x1x

The coding of EF_{UST} shall conform to the capabilities of the USIM used.

4.6.2 EF_{AD} (Administrative Data)

Logically: Normal operation

OFM to be deactivated by the Terminal

MNC: 3 digit

all available CSGs can be displayed without any restriction (B3)

Coding:	B1	B2	В3	B4
Hex	00	00	00	03

4.6.3 EFocsgl (Operator CSG Lists)

For testing 2 CSG lists are defined and stored together in record one.

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)

1st CSG list 2nd CSG Type indication 05

1st CSG list 2nd CSG HNB Name indication 05

1st CSG list 2nd CSG CSG ID: 05 (27bit)

CSG display indicator: All available CSG Ids can be displayed during a manual CSG selection 00

 2^{nd} CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 07

2nd CSG list 1st CSG HNB Name indication 07

2nd CSG list 1st CSG CSG ID: 07 (27bit)

CSG display indicator: All available CSG Ids can be displayed during a manual CSG selection 00

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	A0	18	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	05	05	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	00	00	BF	82	01	00	A0	10	80	03
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	42	14	80	81	06	07	07	00	00	00
	B41	B42	B43	B44						
	FF	82	01	00						

All other records are empty.

4.6.4 EF_{OCSGT} (Operator CSG Type)

Record 1:

Logically: OMode ONE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	13	80	00	4F	00	4D	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	64	00	65	00	20	00	4F	00	4E	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	FF								

Record 2:

Logically: OMode TWO

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	13	80	00	4F	00	4D	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	64	00	65	00	20	00	54	00	57	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	4F	FF								

Record 3:

Logically: OMode THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	4F	00	4D	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	64	00	65	00	20	00	54	00	48	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	00	45	00	45	FF	FF	FF	FF	FF

Record 4:

Logically: OMode FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	4F	00	4D	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	64	00	65	00	20	00	46	00	4F	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	55	00	52	FF						

Record 5:

Logically: Group FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	46	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	FF						

Record 6:

Logically: Group SIX

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	53	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	58	FF								

Record 7:

Logically: Group SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	53	00	45	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	00	4E	FF	FF	FF	FF	FF

Record 8:

Logically: Group EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
'	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	45	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	47	00	48	00	54	FF	FF	FF	FF	FF

4.6.5 EFOHNBN (Operator 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									

Record 2:

Logically: Home TWO

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	54	00	57	00	4F	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 3:

Logically: Home THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	54	00	48	00	52	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	45	FF						

Record 4:

Logically: Home FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	4F	00	55	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	FF								

Record 5:

Logically: Home FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	49	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	FF								

Record 6:

Logically: Home SIX

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	53	00	49	00	58	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 7:

Logically: Home SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	53	00	45	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	4E	FF						

Record 8:

Logically: Home EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	45	00	49	00	47	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	48	00	54	FF						

4.7 Definition of Non Access Stratum Configuration UICC

In general the values of the UICC configuration are identical to the default UICC, with the following exceptions:

4.7.1 Values of the EFs

4.7.1.1 EFUST (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Non-Access Stratum configuration by USIM available

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xx1x xx11	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX

B9	B10	B11	B12
XXXX XXXX	XXXX XXXX	XXXX XXXX	1xxx xxxx

The coding of EF_{UST} shall conform to the capabilities of the USIM used.

4.7.1.2 EF_{NASCONFIG} (Non Access Stratum Configuration)

Logically: NAS signalling priority value: 00

NMO I Behaviour value: 00 Attach with IMSI value: 00

Minimum Periodic Search Timer value: 00

Extended access barring value: 00 Timer T3245 Behaviour value: 00

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	01	00	81	01	00	82	01	00	83
	B11	B12	B13	B14	B15	B16	B17	B18		
	01	00	84	01	00	85	01	00		

4.8 Definition of Non Access Stratum Configuration of E-UTRAN/EPC UICC

In general the values of the UICC configuration are identical to the default UICC, with the following exceptions:

4.8.1 EFUST (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n° 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available Allowed CSG Lists and corresponding indications Non-Access Stratum configuration by USIM available

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xx1x xx11	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11	B12				
	XXXX XXXX	XXXX XXXX	xx11 xxxx	1xxx xxxx				

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

4.8.2 EFEPSLOCI (EPS Information)

Logically: 24608100010266431122

Last visited registered TAI: 246/081/0001

EPS update status: not updated

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex:	0B	F6	42	16	80	00	01	02	66	43	11
	B12	B13	B14	B15	B16	B17	B18				
	22	42	16	80	00	01	01				

4.8.3 EF_{PLMNwACT} (User Controlled PLMN Selector with Access Technology)

Besides of the 8 mandatory PLMNwACT entries 4 optional PLMNwACT entries are defined according to TS 31.102 [4], clause 4.2.5. The Radio Access Technology identifiers are set either to E-UTRAN only, UTRAN only or GSM only.

Logically: 1st PLMN: 244 081 (MCC MNC)

1st ACT: E-UTRAN 2nd PLMN: 244 081 2nd ACT: GSM 3rd PLMN: 244 083

3rd ACT: E-UTRAN 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: E-UTRAN 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 081 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: E-UTRAN 11th PLMN: 244 009 11th ACT: **UTRAN** 12th PLMN: 244 010 12th ACT: E-UTRAN

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	40	00	42	14	80	00	80	42	34	80	40	00
	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	42	24	80	00	80	42	34	00	40	00	42	44	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
	42	54	00	80	00	42	14	80	80	00	42	74	00	80	00
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	40	00	42	94	00	80	00	42	04	10	40	00

4.8.4 EFOPLMNWACT (Operator Controlled PLMN Selector with Access Technology)

The Radio Access Technology identifier for the first PLMN is set to both UTRAN and GSM, the other remaining PLMNs to UTRAN only or E-UTRAN only.

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: E-UTRAN 2nd PLMN: 254 001 2nd ACT: GSM 3rd PLMN: 254 002 3rd ACT: E-UTRAN 4th PLMN: 254 003 4th ACT: E-UTRAN 5th PLMN: 254 004 5th ACT: UTRAN 6th PLMN: 254 005

6th ACT: UTRAN 7th PLMN: 254 006 7th ACT: UTRAN 8th PLMN: 254 007 8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	14	00	40	00	52	14	00	00	80
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	40	00	52	34	00	40	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

4.8.5 EFACSGL (Allowed CSG Lists)

For testing 2 CSG lists are defined and stored together in record one.

Logically:

1st CSG list

 $\begin{array}{lll} PLMN: & 246\ 081\ (MCC\ MNC) \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ Type\ indication\ 02 \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ HNB\ Name\ indication\ 02 \\ 1^{st}\ CSG\ list & 1^{st}\ CSG\ CSG\ ID:\ 02\ (27bit) \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ Type\ indication\ 03 \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ HNB\ Name\ indication\ 03 \\ 1^{st}\ CSG\ list & 2^{nd}\ CSG\ CSG\ ID:\ 03\ (27bit) \\ \end{array}$

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	A0	15	80	03	42	16	80	81	06	02
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	02	00	00	00	5F	81	06	03	03	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	00	00	7F	A0	0D	80	03	42	14	80
	B31	B32	B33	B34	B35	B36	B37	B38	B39	
	81	06	08	08	00	00	01	1F	F	FF
	Bxx									
	FF									

All other records are empty.

4.8.6 EF_{CSGT} (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								

Record 2:

Logically: Group TWO

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	54	00	57	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	4F	FF								

Record 3:

Logically: Group THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	54	00	48	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	00	45	00	45	FF	FF	FF	FF	FF

Record 4:

Logically: Group FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	46	00	4F	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	55	00	52	FF						

Record 5:

Logically: Group FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	15	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	46	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	FF						

Record 6:

Logically: Group SIX

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	53	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	58	FF	F	FF	F	FF	F	FF	FF	FF

Record 7:

Logically: Group SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	53	00	45	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	56	00	45	00	4E	FF	FF	FF	FF	FF

Record 8:

Logically: Group EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	89	17	80	00	47	00	72	00	6F	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	75	00	70	00	20	00	45	00	49	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	47	00	48	00	54	FF	FF	FF	FF	FF

4.8.7 EF_{HNBN} (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									

Record 2:

Logically: Home TWO

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	54	00	57	00	4F	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 3:

Logically: Home THREE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	54	00	48	00	52	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	45	FF						

Record 4:

Logically: Home FOUR

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	4F	00	55	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	FF								

Record 5:

Logically: Home FIVE

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	13	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	46	00	49	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	FF								

Record 6:

Logically: Home SIX

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	53	00	49	00	58	FF
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	FF									

Record 7:

Logically: Home SEVEN

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	53	00	45	00	56	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	45	00	4E	FF						

Record 8:

Logically: Home EIGHT

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	15	80	00	48	00	6F	00	6D	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	65	00	20	00	45	00	49	00	47	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	48	00	54	FF						

4.8.8 EFEPSNSC (EPS NAS Security Context)

Logically: Key Set Identifier KSI_{ASME}: '07' (no key available)

ASME Key (KSI_{ASME}): 32 byte key, any value FF' (not available)

Uplink NAS count: '00' Downlink NAS count: '01' Identifiers of selected NAS '01' integrity and encryption

algorithm

Byte:	B1	B2	B3	B4	B5	B6	B7	B8		B39	
Coding:	A0	34	80	01	07	81	20	XX		xx	
	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49	
	82	04	00	00	00	00	83	04	00	00	
	B50	B51	B52	B53	B54						
	00	01	84	01	01						

4.8.9 EFNASCONFIG (Non Access Stratum Configuration)

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used)
NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not

used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is not applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE cannot override the NAS signalling

low priority indicator

Override Extended access barring: Indicates that the UE cannot override extended access

barring

disabled

Fast First Higher Priority PLMN Search: Indicates that the Fast First Higher Priority PLMN Search

00

is not enabled

EUTRA Disabling Allowed For EMM Cause 15:

SM_RetryWaitTime:

SM_RetryAtRATChange:

UE is allowed to retry the corresponding ESM procedure in S1 mode if an SM procedure was rejected in A/Gb or

Iu mode, and to retry the corresponding SM procedure in A/Gb or Iu mode if an ESM procedure was rejected in S1

mode.

Byte:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Coding:	80	01	00	81	01	00	82	01	00	83
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	01	00	84	01	00	85	01	00	86	01
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	00	87	01	00	88	01	00	89	01	00
	B31	B32	B33	B34	B35	B36				
	8A	01	00	8B	01	00				

4.9 Definition of 5G-NR UICC

The 5G-NR test cases require a different configuration than the one described in clause 4.1. For that purpose, a default 5G-NR UICC is defined. In general, the values of the 5G-NR UICC are identical to the default UICC, with the following exceptions:

4.9.1 EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support available

SUCI calculation by USIM not available

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11		B16			
	XXXX XXXX	XXXX XXXX	xx11 xxxx		xxx0 111x			

4.9.2 EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	31	75	39	75	39

4.9.3 EF_{5GS3GPPLOCI} (5GS 3GPP location information)

Logically:

5G-GUTI:FF FF FF FF FF FF FF FF FF

TAI: 246 081 000000

5GS update status: 5U2 NOT UPDATED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	FF							
	B9	B10	B11	B12	B13	B14	B15	B16
	FF	FF	FF	FF	FF	42	16	80
	B17	B18	B19	B20				
	00	00	00	01				

4.9.4 EF_{SUCI_Calc_Info} (Subscription Concealed Identifier Calculation Information EF)

Logically:

Protection Scheme Identifier List data object

Protection Scheme Identifier 2 – ECIES scheme profile B

Key Index 1:

- 1

Protection Scheme Identifier 3 – ECIES scheme profile A

Key Index 2:

- 2

Protection Scheme Identifier 1 – null-scheme

Key Index 3:

- 0

Home Network Public Key List data object

Home Network Public Key 1 Identifier: 27

Home Network Public Key 1:

- 02 72 DA 71 97 62 34 CE 83 3A 69 07 42 58 67 B8 2E 07 4D 44 EF 90 7D FB 4B 3E 21 C1 C2 25 6E BC D1

Home Network Public Key 2 Identifier: 30

Home Network Public Key 2:

- 5A 8D 38 86 48 20 19 7C 33 94 B9 26 13 B2 0B 91 63 3C BD 89 71 19 27 3B F8 E4 A6 F4 EE C0 A6 50

Coding:	B1	B2	В3	B4	B5	B6	B7	B8
Hex	A0	06	02	01	01	02	00	00
	B9	B10	B11	B12	B13	B14	B15	B16
	A1	4F	80	01	1B	81	21	02
	B17	B18	B19	B20	B21	B22	B23	B24
	72	DA	71	97	62	34	CE	83
	B25	B26	B27	B28	B29	B30	B31	B32
	3A	69	07	42	58	67	B8	2E
	B33	B34	B35	B36	B37	B38	B39	B40
	07	4D	44	EF	90	7D	FB	4B
	B41	B42	B43	B44	B45	B46	B47	B48
	3E	21	C1	C2	25	6E	BC	D1
	B49	B50	B51	B52	B53	B54	B55	B56
	80	01	1E	81	20	5A	8D	38
	B57	B58	B59	B60	B61	B62	B63	B64
	86	48	20	19	7C	33	94	B9
	B65	B66	B67	B68	B69	B70	B71	B72
	26	13	B2	0B	91	63	3C	BD
	B73	B74	B75	B76	B77	B78	B79	B80
	89	71	19	27	3B	F8	E4	A6
	B81	B82	B83	B84	B85			
	F4	EE	C0	A6	50			

4.9.5 EF_{Routing_Indicator} (Routing Indicator EF)

Logically:

Routing Indicator: 17

Coding:	B1	B2	B3	B4
Hex	71	FF	FF	FF

5 Subscription related tests

5.1 IMSI / TMSI handling

5.1.1 UE identification by short IMSI

5.1.1.1 Definition and applicability

The IMSI is used for unique identification of the UE by UTRAN/ a GERAN. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

5.1.1.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure (in case of Terminals accessing UTRAN) respectively after receipt of an IMMEDIATE ASSIGNMENT message (in case of a Terminal accessing a GERAN) the UE shall send PAGING RESPONSE/ ATTACH REQUEST containing the IMSI of the USIM, which is less than the maximum length.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.008 [16], clause 10.5.1.4 and 4.7.9.1.2;
- ETSI TS 102 221 [5], clause 14.1.1.

5.1.1.3 Test purpose

- 1) To verify that the Terminal uses the IMSI of the USIM.
- 2) To verify that the Terminal can handle an IMSI of less than the maximum length.
- 3) To verify that the READ EF_{IMSI} command is performed correctly by the terminal

5.1.1.4 Method of test

5.1.1.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN) / SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 246/081/0001.
- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05. (only for UTRAN cell)
- Access control: unrestricted.

The default UICC is installed into the Terminal and the UE is powered on. In case PS is supported and active the ME performs a GPRS attach procedure, this will be accepted by the USS.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

5.1.1.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 in the CS domain if supported by the ME or where CS is not supported by the ME, in PS domain to the UE using the IMSI stored in the USIM.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) After receipt of a PAGING RESPONSE in case paging in CS domain or an ATTACH REQUEST in case of PS domain from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

Expected Sequence B:

- a) The SS sends PAGING REQUEST to the UE using the IMSI stored in the USIM.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a PAGING RESPONSE from the UE, the SS sends CHANNEL RELEASE to the UE.

5.1.1.5 Acceptance criteria

After step b) the UE shall send PAGING RESPONSE or ATTACH REQUEST to the USS/SS containing the IMSI stored in the USIM.

5.1.2 UE identification by short IMSI using a 2 digit MNC

5.1.2.1 Definition and applicability

In some networks the IMSI identifying the UTRAN/ GERAN can be consistence of a 2 digit MNC. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

5.1.2.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure (in case of Terminals accessing UTRAN) respectively after receipt of an IMMEDIATE ASSIGNMENT message (in case of a Terminal accessing a GERAN) the UE shall send PAGING RESPONSE/ ATTACH REQUEST containing the IMSI of the USIM.

Reference:

- TS 31.102 [4], clause 4.2.18;
- TS 24.008 [16], clause 10.5.1.4 and 4.7.9.1.2.

5.1.2.3 Test purpose

1) To verify that the Terminal can handle an IMSI consistence of a 2 digit MNC.

5.1.2.4 Method of test

5.1.2.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN) / SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/81/0001.

- RAI (MCC/MNC/LAC/RAC): 246/81/0001/05. (only for UTRAN cell)

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 81 LAI-LAC: 0001 TMSI: "FF..FF"

B11 Codina: **B1** B2 В3 **B4 B**5 **B6** B7 **B8 B9** B10 Hex FF FF FF FF 42 F6 18 00 01 FF 00

EF_{IMSI} (IMSI)

Logically: 246813579

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	В9
Hex									

EFAD (Administrative Data)

Logically: Normal operation

OFM to be deactivated by the Terminal

MNC: 2 digit

Coding: B1 B2 B3 B4 Hex 00 00 00 02

The UICC is installed into the Terminal and the UE is powered on. In case PS is supported and active the ME performs a GPRS attach procedure, this will be accepted by the USS.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

5.1.2.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 in the CS domain if supported by the ME or where CS is not supported by the ME, in PS domain to the UE using the IMSI stored in the USIM.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) After receipt of a PAGING RESPONSE in the case of paging in CS domain or an ATTACH REQUEST in the case of PS domain from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

Expected Sequence B:

- a) The SS sends PAGING REQUEST to the UE using the IMSI stored in the USIM.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a PAGING RESPONSE from the UE, the SS sends CHANNEL RELEASE to the UE.

5.1.2.5 Acceptance criteria

After step b) the UE shall send PAGING RESPONSE or ATTACH REQUEST to the USS/SS containing the IMSI stored in the USIM.

5.1.3 UE identification by "short" TMSI

5.1.3.1 Definition and applicability

The TMSI is temporarily used for identification of the UE by UTRAN/ a GERAN. It will have been previously assigned by the network. The TMSI is stored in the USIM by the Terminal and read during the USIM-Terminal initialisation procedure.

NOTE: According to TS 23.003 [14], clause 2.4, a TMSI always consists of 8 digits (4 bytes). With this tests the handling of a TMSI with leading zeros will be tested. The term "short" TMSI is used in order to distinguish between the tests as defined in clauses 5.1.3 and 5.1.4.

5.1.3.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure (in case of Terminals accessing UTRAN) respectively after receipt of an IMMEDIATE ASSIGNMENT message (in case of a Terminal accessing a GERAN) the UE shall send PAGING RESPONSE containing the TMSI of the USIM. According to clause 10.3.1.17 in TS 25.331 [20] the TMSI has a fixed length of 32 bit (8 digits) when used inside the PAGING TYPE 1/ PAGING REQUEST message.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.008 [16], clause 10.5.1.4.
- TS 25.331 [20], clause 10.3.1.17

5.1.3.3 Test purpose

- 1) To verify that the Terminal uses the TMSI stored in the USIM.
- 2) To verify that the Terminal can handle a TMSI of less than maximum length.

5.1.3.4 Method of test

5.1.3.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN) / SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{LOCI} (**Location Information**)

Logically: LAI-MCC: 246

LAI-MNC: 081 LAI-LAC: 0001

TMSI: "00002143"

Coding: **B**1 B2 **B**3 B4 **B**5 B6 **B7** В8 B9 B10 B11 Hex 00 00 21 43 42 16 80 00 01 00 FF

The UICC is installed into the Terminal and the UE is powered on.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

5.1.3.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 to the UE using the TMSI stored in the USIM matching the required length of 8 digits.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.

c) After receipt of a PAGING RESPONSE from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

Expected Sequence B:

- a) The SS sends PAGING REQUEST to the UE using the TMSI stored in the USIM matching the required length of 8 digits.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a PAGING RESPONSE from the UE, the SS sends CHANNEL RELEASE to the UE.

5.1.3.5 Acceptance criteria

After step b) the UE shall send PAGING RESPONSE to the USS/SS containing the TMSI stored in the USIM.

5.1.4 UE identification by "long" TMSI

5.1.4.1 Definition and applicability

The TMSI is temporarily used for identification of the UE by UTRAN/ a GERAN. It will have been previously assigned by the network. The TMSI is stored in the USIM by the Terminal and read during the USIM-Terminal initialisation procedure.

NOTE: According to TS 23.003 [14], clause 2.4, a TMSI always consists of 8 digits (4 bytes). With this tests the handling of a new assigned TMSI will be tested. The term "long" TMSI is used in order to distinguish between the tests as defined in clauses 5.1.3 and 5.1.4.

5.1.4.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure (in case of Terminals accessing UTRAN) respectively after receipt of an IMMEDIATE ASSIGNMENT message (in case of a Terminal accessing a GERAN) the UE shall send PAGING RESPONSE containing the correct TMSI stored in the USIM.

According to clause 10.3.1.17 in TS 25.331 [20] the TMSI has a fixed length of 32 bit (8 digits) when used inside the PAGING TYPE 1/PAGING REQUEST message.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.008 [16], clause 10.5.1.4.
- TS 25.331 [20], clause 10.3.1.17

5.1.4.3 Test purpose

- 1) To verify that the Terminal uses the TMSI stored in the USIM.
- 2) To verify that the Terminal can handle a TMSI of maximum length.
- 3) To verify that the Terminal does not respond to page requests containing a previous TMSI.

5.1.4.4 Method of test

5.1.4.4.1 Initial conditions

Prior to this test, the Terminal shall have been operated with a USIM containing TMSI "2143". This may be achieved by executing the previous test (5.1.3) prior to this test. Only under this condition will test purpose 3) be verified.

The USS (in case of a Terminal accessing UTRAN) / SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

The default UICC is used with the following exception:

EFLOCI (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081 LAI-LAC: 0001

TMSI: "21430000"

Coding: В1 B2 **B3** B4 **B**5 **B6** B7 **B8 B9** B10 B11 43 00 00 42 80 00 Hex 21 16 01 FF 00

The UICC is installed into the Terminal and the UE is powered on.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

5.1.4.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 to the UE using the TMSI "00002143".
- b) The USS sends PAGING TYPE 1 to the UE using the TMSI stored in the USIM.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) After receipt of a PAGING RESPONSE from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

Expected Sequence B:

- a) The SS sends PAGING REQUEST to the UE using the TMSI "00002143".
- b) The SS sends PAGING REQUEST to the UE using the TMSI stored in the USIM.
- c) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- d) After receipt of a PAGING RESPONSE from the UE, the SS sends CHANNEL RELEASE to the UE.

5.1.4.5 Acceptance criteria

- 1) After step a) the UE shall not respond to the PAGING TYPE 1 respectively to the PAGING REQUEST.
- 2) After step c) the UE shall send PAGING RESPONSE to the USS/SS containing the TMSI stored in the USIM.

5.1.5 UE identification by long IMSI, TMSI updating and key set identifier assignment

5.1.5.1 Definition and applicability

The IMSI and TMSI are used for identification of the UE by UTRAN/ a GERAN. They are read from the USIM during the USIM-Terminal initialisation procedure. Within the authentication procedure the UTRAN sends a key set identifier respectively a GERAN sends a ciphering key sequence number to the UE. In addition the network may allocate a new TMSI to the UE. Key set identifier and TMSI are stored in the USIM after UTRAN call termination and/or at a 3G

session termination. Ciphering key sequence number and TMSI are stored in the USIM after GERAN call termination and/or at a 3G session termination.

NOTE: According to TS 24.008 [16] the term KSI may be used instead of the term ciphering key sequence number which is used inside the MM message AUTHENTICATION REQUEST.

5.1.5.2 Conformance requirement

 After successful completion of the RRC Connection Establishment procedure (in case of Terminals accessing UTRAN) respectively after receipt of an IMMEDIATE ASSIGNMENT message (in case of a Terminal accessing a GERAN) the UE shall send PAGING RESPONSE containing the correct IMSI stored in the USIM.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.008 [16], clause 10.5.1.4.
- 2) After call termination the USIM shall contain the key set identifier (ciphering key sequence number) and TMSI received by the UE during the authentication and TMSI reallocation procedures.

Reference:

- TS 31.102 [4], clauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [19], clause 10.1.
- TS 24.008 [16], clause 4.3.2.4.
- 3) After call termination the Terminal shall have updated EFLOCI.

Reference:

- ETSI TS 102 221 [5], clause 14.1.2.

5.1.5.3 Test purpose

- 1) To verify that the Terminal uses the IMSI stored in the USIM.
- 2) To verify that the Terminal does not respond to page requests containing a previous IMSI.
- 3) To verify that the Terminal can handle an IMSI of maximum length.
- 4) To verify that the Terminal correctly updates the key set identifier respectively the ciphering key sequence number at call termination.
- 5) To verify that the Terminal correctly updates the TMSI at call termination.
- 6) To verify that the UPDATE EF_{LOCI} command is performed correctly by the terminal

5.1.5.4 Method of test

5.1.5.4.1 Initial conditions

Prior to this test, the Terminal shall have been operated with a USIM containing IMSI "2460813579". This may be achieved by executing the previous test (5.1.4) prior to this test. Only under this condition will test purpose 2) be verified.

The USS (in case of a Terminal accessing UTRAN) / SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

The default UICC is used with the following exception:

EF_{IMSI} (IMSI)

Logical	ly:	246081	11111111						
Coding:	В1	B2	В3	B4	B5	В6	В7	В8	В9
Hex	08	29	64	80	11	11	11	11	11

EF_{Kc} (GSM Ciphering Kev Kc)

EFKc (GSN	1 Cipii	ering Key	NC)						
Logical	ly:		ng key Kc ng key sec		mber n: 0	1			
Coding: Hex	B1 xx	B2 xx	B3 xx	B4 xx	B5 xx	B6 xx	B7 xx	B8 xx	B9 01

The UICC is installed into the Terminal and the UE is powered on.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

5.1.5.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 to the UE using the IMSI "2460813579".
- b) The USS sends PAGING TYPE 1 to the UE using the IMSI stored in the USIM.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) After receipt of a PAGING RESPONSE from the UE, the USS sends AUTHENTICATION REQUEST to the UE containing Key Set Identifier KSI (ciphering key sequence number) set to binary 010.
- e) After receipt of AUTHENTICATION RESPONSE from the UE and subsequent completion of the security procedure on RRC, the USS sends TMSI REALLOCATION COMMAND to the UE containing TMSI "32547698".
- f) Within 5 s after receipt of TMSI REALLOCATION COMPLETE from the UE, the USS sends RRC CONNECTION RELEASE to the UE.
- g) To allow examination of the values in the USIM after connection termination the UE shall not be soft powered down. If the test is performed with a USIM simulator, the simulation is stopped. If the test is performed with a USIM, the UICC is removed without soft powering down the UE. If this is not possible, the power supply of the Terminal is removed and then the UICC removed.

Expected sequence B:

- a) The SS sends PAGING REQUEST to the UE using the IMSI "2460813579".
- b) The SS sends PAGING REQUEST to the UE using the IMSI stored in the USIM.
- c) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- d) After receipt of a PAGING RESPONSE from the UE, the SS sends AUTHENTICATION REQUEST to the UE containing ciphering key sequence number set to binary 010.
- e) After receipt of AUTHENTICATION RESPONSE from the UE, the SS sends TMSI REALLOCATION COMMAND to the UE containing TMSI "32547698".

- f) Within 5 s after receipt of TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- g) To allow examination of the values in the USIM after connection termination the UE shall not be soft powered down. If the test is performed with a USIM simulator, the simulation is stopped. If the test is performed with a USIM, the UICC is removed without soft powering down the UE. If this is not possible, the power supply of the Terminal is removed and then the UICC removed.

5.1.5.5 Acceptance criteria

- 1) After step a) the UE shall not respond to the PAGING TYPE 1/ PAGING REQUEST.
- 2) After step c) the UE shall send PAGING RESPONSE to the USS/SS containing the IMSI stored in the USIM.
- 3) After step e) the UE shall send TMSI REALLOCATION COMPLETE to the USS/SS.
- 4) After step g) the USIM shall contain the following values:

EFLOCI (Location Information)

Logically: LAI-MCC: 246 LAI-MNC: 081

TMCI. "225 47 (00)

TMSI: "32547698"

Coding: B2 **B3 B**5 **B7 B9** B10 B11 В1 **B**4 **B6 B8** Hex 32 54 76 98 42 16 80 XX 00

In case of a Terminal accessing UTRAN:

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 02

Ciphering Keys CK: xx (result of the authentication algorithm)
Integrity Keys IK: xx (result of the authentication algorithm)

Coding: **B31 B33** В1 B₂ **B**3 B16 **B17** R18 B32 Hex 02 XX XX XX XX XX XX XX XX ...

In case of a Terminal accessing a GERAN:

EF_{Kc} (GSM Ciphering Key Kc)

Logically: Ciphering key Kc: xx (result of the authentication algorithm)

Ciphering key sequence number n: 02

Coding: B2 **B3** R4 **R**5 **B9** В1 **B6** B7 **B8** Hex 02 Хx XX XX XX XX XX XX XX

5.1.6 UE identification by short IMSI when accessing E-UTRAN/EPC

5.1.6.1 Definition and applicability

Paging for EPS services using IMSI is an abnormal procedure used for error recovery in the network. The IMSI is used for unique identification of the UE by an E-UTRAN/EPC if there is no GUTI available. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

5.1.6.2 Conformance requirement

Only after reception of a Paging message containing the IMSI stored in the USIM the UE shall send the *RRCConnectionRequest* message.

For NB-IoT, the paging message shall include a CN domain indicator set to "PS". If the paging message includes a UE Paging Identity set to the UE's IMSI, the paging procedure is performed according to clause 5.6.2.2.2 [26].

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- ETSI TS 102 221 [5], clause 14.1.1;
- TS 24.301 [26], clause 5.6.2.2.2, 5.6.2.2.4.

5.1.6.3 Test purpose

- 1) To verify that the Terminal uses the IMSI of the USIM.
- 2) To verify that the Terminal can handle an IMSI of less than the maximum length.
- 3) To verify that the READ EF_{IMSI} command is performed correctly by the terminal.
- 4) To verify that the terminal does not respond to a Paging message containing an IMSI not stored in the USIM.

5.1.6.4 Method of test

5.1.6.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal and the UE is powered on.

5.1.6.4.2 Procedure

- a) The UE performs Attach procedure to E-USS/NB-SS.
- b) The E-USS/NB-SS sends *Paging/Paging-NB* to the UE using the IMSI 24608122222.
- c) The E-USS/NB-SS sends Paging/Paging-NB to the UE using the IMSI stored in the USIM.
- d) After receipt of a RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- e) After the EPS attach procedure the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.

5.1.6.5 Acceptance criteria

- 1) After step b) the UE shall not send RRCConnectionRequest/RRCConnectionRequest-NB to the E-USS/NB-SS.
- 2) After step c) the UE shall send RRCConnectionRequest/RRCConnectionRequest-NB to the E-USS/NB-SS.
- 3) After step d) the UE performs the EPS attach procedure.

5.1.7 UE identification by short IMSI using a 2 digit MNC when accessing E-UTRAN/EPC

5.1.7.1 Definition and applicability

In some networks the IMSI identifying the E-UTRAN/EPC can be consistence of a 2 digit MNC. Paging for EPS services using IMSI is an abnormal procedure used for error recovery in the network. The IMSI is used for unique identification of the UE by an E-UTRAN/EPC if there is no GUTI available. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

5.1.7.2 Conformance requirement

Only after reception of a Paging message containing the IMSI stored in the USIM the UE shall send the *RRCConnectionRequest* message.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- ETSI TS 102 221 [5], clause 14.1.1;
- TS 24.301 [26], clause 5.6.2.2.2, 5.6.2.4.

5.1.7.3 Test purpose

- 1) To verify that the Terminal uses the IMSI of the USIM.
- 2) To verify that the Terminal can handle an IMSI consistence of a 2 digit MNC.
- 3) To verify that the READ EF_{IMSI} command is performed correctly by the terminal.
- 4) To verify that the terminal does not respond to a Paging message containing an IMSI not stored in the USIM.

5.1.7.4 Method of test

5.1.7.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/81/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/81/0001.
- Access control: unrestricted.

The default UICC is used with the following exception:

246813579

64

29

EF_{IMSI} (IMSI)

Hex

Logically:

•	•								
Coding:	В1	B2	В3	B4	B5	В6	В7	В8	В9

53

18

EF_{AD} (Administrative Data)

05

97

FF

FF

FF

Logically: Normal operation

OFM to be deactivated by the Terminal

MNC: 2 digit

Coding: B1 B2 B3 B4 Hex 00 00 00 02

The UICC is installed into the Terminal and the UE is powered on.

5.1.7.4.2 Procedure

- a) The UE performs Attach procedure to E-USS/NB-SS.
- b) The E-USS/NB-SS sends Paging/Paging-NB to the UE using the IMSI 24608122222.
- c) The E-USS/NB-SS sends Paging/Paging-NB to the UE using the IMSI stored in the USIM.
- d) After receipt of a RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- e) After the EPS attach procedure the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.

5.1.7.5 Acceptance criteria

- 1) After step b) the UE shall not send RRCConnectionRequest/RRCConnectionRequest-NB to the E-USS/NB-SS.
- 2) After step c) the UE shall send RRCConnectionRequest/RRCConnectionRequest-NB to the E-USS/NB-SS.
- 3) After step d) the UE performs the EPS attach procedure.

5.1.8 UE identification after changed IMSI with service "EMM Information" not available

The attach procedure is used to attach for packet services in EPS. With a successful attach procedure, a context is established for the UE in the MME, and a default bearer is established between the UE and the PDN GW, thus enabling always-on IP connectivity to the UE. The network may also initiate the activation of dedicated bearers as part of the attach procedure. For NB-IoT terminals the establishment of the PDN connection is optional.

5.1.8.2 Conformance requirement

The following EMM parameters shall be stored on the USIM if the corresponding file is present:

- GUTI;
- last visited registered TAI;
- EPS update status.

If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM. These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;

- TS 24.301 [26], clause 5.5.1.2.1, 5.5.1.2.2, 5.5.1.2.4 and Annex C.

5.1.8.3 Test purpose

- 1) To verify that UE deletes existing EMM parameters from the UE's non-volatile memory in case a different IMSI is activated.
- 2) To verify that UE includes the IMSI stored in the USIM during the attach procedure.

5.1.8.4 Method of test

5.1.8.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

The default UICC (without the service "EMM Information") is installed into the Terminal and the UE is powered on.

5.1.8.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and therefore performs EPS Attach procedure to the E-USS/NB-SS. The E-USS/NB-SS sends *AttachAccept* with the following values:

GUTI: "24608100010266345678"

TAI (MCC/MNC/TAC):246/081/0001

- c) The UE send AttachComplete.
- d) The E-USS/NB-SS requests the release of the RRC Connection.
- e) The UE is switched off.
- f) A new UICC with the following configuration is activated:

The default UICC with the following exception: The IMSI is set to "246081222233333".

- g) The Terminal is switched on.
- h) The UE requests RRC Connection and therefore performs EPS Attach procedure to the E-USS/NB-SS.

5.1.8.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST} .
- 2) During step h) the UE shall include the IMSI "246081222233333", but no GUTI nor TAI in the AttachRequest message.

5.1.9 UE identification by GUTI when using USIM with service "EMM Information" not available

The attach procedure is used to attach for packet services in EPS. With a successful attach procedure, a context is established for the UE in the MME, and a default bearer is established between the UE and the PDN GW, thus enabling always-on IP connectivity to the UE. The network may also initiate the activation of dedicated bearers as part of the attach procedure. For NB-IoT terminals the establishment of the PDN connection is optional.

5.1.9.2 Conformance requirement

The following EMM parameters shall be stored on the USIM if the corresponding file is present:

- GUTI:
- last visited registered TAI;
- EPS update status.

If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM. These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.301 [26], clause 5.5.1.2.1, 5.5.1.2.2, 5.5.1.2.4 and Annex C.

5.1.9.3 Test purpose

- 1) To verify that UE stores the GUTI and the TAI in the UE's non-volatile memory.
- 2) To verify that the UE uses the GUTI and the TAI from the UE's non-volatile memory during the attach procedure if the IMSI stored in the USIM has not changed.

5.1.9.4 Method of test

5.1.9.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

The default UICC (without the service "EMM Information") is installed into the Terminal and the UE is powered on.

5.1.9.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and therefore performs EPS Attach procedure to the E-USS/NB-SS. The E-USS/NB-SS sends *AttachAccept* with the following values:

GUTI: "24608100010266345699"

TAI (MCC/MNC/TAC):246/081/0001

- c) The UE send Attach Complete.
- d) The E-USS/NB-SS requests the release of the RRC Connection.
- e) The UE is switched off.
- f) The default UICC remains in use.
- g) The Terminal is switched on.
- h) The UE requests RRC Connection and therefore performs EPS Attach procedure to the E-USS/NB-SS.

5.1.9.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST}.
- 2) During step h) the UE shall include the GUTI "24608100010266345699" and the TAI 246/081/0001 in the AttachRequest message.

5.1.10 UE identification by GUTI when using USIM with service "EMM Information" available

5.1.10.1 Definition and applicability

The attach procedure is used to attach for packet services in EPS. With a successful attach procedure, a context is established for the UE in the MME, and a default bearer is established between the UE and the PDN GW, thus enabling always-on IP connectivity to the UE. The network may also initiate the activation of dedicated bearers as part of the attach procedure. For NB-IoT terminals the establishment of the PDN connection is optional.

5.1.10.2 Conformance requirement

The following EMM parameters shall be stored on the USIM if the corresponding file is present:

- GUTI;
- last visited registered TAI;
- EPS update status.

The presence and format of corresponding files on the USIM is specified in 3GPP TS 31.102 [4].

Reference:

- TS 31.102 [4], clauses 5.1.1 and 5.2.2;
- TS 24.301 [26], clause 5.5.1.2.1, 5.5.1.2.2, 5.5.1.2.4 and Annex C.

5.1.10.3 Test purpose

- 1) To verify that UE includes the GUTI and TAI stored in EF_{EPSLOCI} in the *AttachRequest* message.
- 2) To verify that the EMM parameters GUTI, Last Registered TAI sent in the *AttachAccept* message and the related EPS Update Status are correctly stored on the USIM if the corresponding file is present.

5.1.10.4 Method of test

5.1.10.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0002.

Access control: unrestricted.

The default E-UTRAN UICC is is used with the following exceptions:

EF_{EPSNSC} (**EPS NAS Security Context**)

Logically: Key Set Identifier KSI_{ASME}: '01'

ASME Key (KSI_{ASME}): 32 byte key, any value

Uplink NAS count: 00 Downlink NAS count: 01 Identifiers of selected NAS 01 integrity and encryption

algorithm

Coding:	B1	B2	B3	B4	B5	B6	B7	B8		B39
Hex	A0	34	80	01	01	81	20	XX		XX
Coding:	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49
Hex	82	04	00	00	00	00	83	04	00	00
Coding:	B50	B51	B52	B53	B54					
Hex	00	01	84	01	01					

5.1.10.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and therefore performs EPS Attach procedure to the E-USS/NB-SS. The E-USS/NB-SS sends *AttachAccept* with the following values:

GUTI: "24608100010266436587"

TAI (MCC/MNC/TAC):246/081/0002

- c) The UE send AttachComplete.
- d) The E-USS/NB-SS requests the release of the RRC Connection.

5.1.10.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST} and EF_{EPSLOCI}.
- 2) During step b) the UE shall include the GUTI and the Last visited registered TAI contained in EF_{EPSLOCI} when sending the *AttachRequest* message.

3) After step b) EF_{EPSLOCI} shall contain:

Logically: 24608100010266436587

Last visited registered TAI: 246/081/0002

EPS update status: updated

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex:	0B	F6	42	16	80	00	01	02	66	43	65
	B12 87	B13 42	B14 16	B15 80	_	B17 02	B18 00				

5.2 Access Control handling

5.2.1 Access Control information handling

5.2.1.1 Definition and applicability

Access Control allows restriction of call access attempts. All User Equipments are assigned to one out of ten randomly allocated classes, and optionally (for priority uses) also to one or more special categories.

An Access Class of the special Categories is only valid in the HPLMN or HPLMN country. Otherwise, the randomly allocated class is used.

The classes are programmed on the USIM. The network controls which classes at any time may be barred.

In addition, there is a separate mechanism for control of network access for emergency call attempts.

5.2.1.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopt this value.

Reference:

- TS 31.102 [4], clause 5.1.1.
- 2. If the UE is a member of at least one access class which corresponds to the permitted classes as signalled over the air interface, and the access class is applicable in the serving network,access attempts are allowed.

 Otherwise access attempts are not allowed.
- 3. If access class 10 is barred, then the Ues of classes 0-9 and the Terminals without UICCs shall not make emergency call attempts.
- 4. UE of classes 11 15 are not allowed to make emergency call attempts if access class 10 and the relevant access class(es) between 11 and 15 are barred. Otherwise, emergency call attempts are allowed irrespective of the conditions of access class 10.

All options are shown in figure 5-1 and are referenced to the tests.

Reference:

- TS 22.011 [6], clauses 4.3 and 4.4.

5.2.1.3 Test purpose

- 1) To verify that the Terminal reads the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify that the UE controls its network access in accordance with its access control class and the conditions imposed by the serving network.

The tests verify Terminal performance for the following:

Tests (a) and (b) No UICC in Terminal.

Tests I to (e) UE with access class 0 to 9.

Test (f) UE with access class 11 and 15 not in HPLMN, and

UE with access class 12,13 and 14 not in HPLMN country.

Test (g) and (h) UE with access class 11 and 15 in HPLMN, and

UE with access class 12,13 and 14 in HPLMN country.

Each of the above are tested against all relevant combinations of access control and emergency call bits signalled by the network, as shown in table 5-1.

5.2.1.4 Method of test

5.2.1.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a GERAN Terminal) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): MCC, MNC: see table 5-1, LAC="0001".

- Access control: see table 5-1.
- RACH: see table 5-1.

The default UICC is installed in the Terminal containing IMSI and access control values as given in table 5-1 and the UE is powered on.

NOTE: Depending on the initial value of the EF_{LOCI} , the UE may perform a location update. This shall be accepted by the USS/SS.

5.2.1.4.2 Coding details

USIM IMSI EF_{IMSI}: Data Field "6F 07"

Logical	ly:	IMSI:	"24	60813579	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	75	F9	FF	FF
Logical	ly:	IMSI:	"24	608135x9	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	x5	F9	FF	FF

Access Control class EFACC: Data field "6F 78"

Reference:

7) See TS 31.102 [4].

NETWORK (USS in case of a Terminal accessing UTRAN)

Access Class Barred List in SIB 3 should be set as table 5.1a:

Reference

7) TS 25.331 clause 10.3.2.1

NOTE: The first instance of the parameter corresponds to Access Class 0, the second to Access Class 1 and so on up to Access Class 15.

NETWORK (SS in case of a Terminal accessing GERAN)

RACH: As defined in TS 44.018 clause 10.5.2.29.

NOTE: TS 44.018 also apply for the Radio Resource management for UMTS (see TS 24.008, clause 10.5.2).

```
Octet 1 0111 1000
Octet 2 0000 1000
Octet 3 }
Octet 4 } as table 5-1b
```

5.2.1.4.3 Procedure

- a) Using the MMI or EMMI a normal call set-up is attempted.
- b) Using the MMI or EMMI an emergency call set-up is attempted.
- c) The test is repeated for each set of values in table 5-1.

5.2.1.5 Acceptance criteria

After steps a) and b) the UE shall access the network, or shall make no access attempt, in accordance with table 5-1.

- NOTE 1: For conformance testing, to limit testing, in tesI(c), (d) and (e) it is only necessary that one of the access classes is tested. This access class may be chosen randomly.
- NOTE 2: In tables 5-1a and 5-1b the following notation is used to describe the Access Class Barred IE: "0" = not barred, "1" =barred.

Table 5-1a

	USIM			Network		Test	Results
	IMSI		RACH SIB3: Access Class Barred List	Informative: Cell Barred for:	BCCH/ LAI	Normal Call	Emergency Call
		Access	AC15- AC08	Emergency Call	MCC		
		Class	AC08 AC07- AC00	Normal Call	MNC		
Test (a)	No UICC in Terminal	N/A	0000 0100 0000 0000	Yes No	234 001	No	No
Test (b)	No UICC in Terminal	N/A	0000 0000 0000 0000	No No	234 001	No	Yes
Ist (c)	"2460813579"	0	0000 0100 0000 0001	Yes No, except for ACC	246 081	No	No
	"2460813579"	1	0000 0100 0000 0010	Yes No, except for ACC	246 081	No	No
	"2460813579"	2	0000 0100 0000 0100	Yes No, except for ACC	246 081	No	No
	"2460813579"	3	0000 0100 0000 1000	Yes No, except for ACC	246 081	No	No
	"2460813579"	4	0000 0100 0001 0000	Yes No, except for ACC	246 081	No	No
	"2460813579"	5	0000 0100 0010 0000	Yes No, except for ACC	246 081	No	No
	"2460813579"	6	0000 0100 0100 0000	Yes No, except for ACC	246 081	No	No
	"2460813579"	7	0000 0100 1000 0000	Yes No, except for ACC	246 081	No	No
	"2460813579"	8	0000 0101 0000 0000	Yes No, except for ACC	246 081	No	No
	"2460813579"	9	0000 0110 0000 0000	Yes No, except for ACC	246 081	No	No
Test (d)	"2460813579"	0	0000 0000 0000 0001	No None, except for ACC	246 081	No	Yes
	"2460813579"	1	0000 0000 0000 0010	No None, except for ACC	246 081	No	Yes
	"2460813579"	2	0000 0000 0000 0100	No None, except for ACC	246 081	No	Yes
	"2460813579"	3	0000 0000	No	246	No	Yes

		0000 1000	None, except for ACC	081		
"2460813579"	4	0000 0000 0001 0000	No None, except for ACC	246 081	No	Yes
"2460813579"	5	0000 0000 0010 0000	No None, except for ACC	246 081	No	Yes
"2460813579"	6	0000 0000 0100 0000	No None, except for ACC	246 081	No	Yes
"2460813579"	7	0000 0000 1000 0000	No None, except for ACC	246 081	No	Yes
"2460813579"	8	0000 0001 0000 0000	No None, except for ACC	246 081	No	Yes
"2460813579"	9	0000 0010 0000 0000	No None, except for ACC	246 081	No	Yes

Test (e)	"2460813579"	0	1111 1011 1111 1110	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	1	1111 1011 1111 1101	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	2	1111 1011 1111 1011	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	3	1111 1011 1111 0111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	4	1111 1011 1110 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	5	1111 1011 1101 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	6	1111 1011 1011 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2406813579"	7	1111 1011 0111 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	8	1111 1010 1111 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	9	1111 1001 1111 1111	No All, except ACC on USIM	246 081	Yes	Yes
Test (f)	"24608135x9"	11 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	246 082	No	No
	н	11 & x	0000 0011 1111 1111	No All, except ACC greater than 11	246 082	No	Yes
	п	11 & x	0000 0000 0000 0000	No None	246 082	Yes	Yes
	"24608135x9"	12 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	п	12 & x	0000 0011 1111 1111	No All, except ACC greater than 11	244 001	No	Yes
	п	12 & x	0000 0000 0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	13 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	п	13 & x	0000 0011	No	244	No	Yes

			1111 1111	All, except ACC greater than 11	001		
	n	13 & x	0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	14 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	н	14 & x	0000 0011 1111 1111	No All, except ACC greater than 11	244 001	No	Yes
	п	14 & x	0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	15 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	246 082	No	No
	"	15 & x	0000 0011 1111 1111	No All, except ACC greater than 11	246 082	No	Yes
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	0000 0000	No None	246 082	Yes	Yes
Test (g)	"2460813579"	11 & x	0000 1111 1111 1111	Yes All normal ACC and ACC on USIM	246 081	No	No
	п	11 & x	0000 1011 1111 1111	No All normal ACC and ACC on USIM	246 081	No	Yes
	"2460813579"	12 & x	0001 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
	"	12 & x	0001 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	13 & x	0010 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
	п	13 & x	0010 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	14 & x	0100 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
	ı	14 & x	0100 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	15 & x	1000 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 081	No	No

1						I	
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	1000 0011 1111 1111	No All normal ACC and ACC on USIM	246 081	No	Yes
Test (h)	"2460813579"	11 & x	1111 0011 1111 1111	No All, except "special" ACC on USIM	246 081	Yes	Yes
	п	11 & x	1111 0111 1111 1111	Yes All, except "special" ACC on USIM	246 081	Yes	Yes
	"2460813579"	12 & x	1110 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	п	12 & x	1110 1111 1111 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	13 & x	1101 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	п	13 & x	1101 1111 1111 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	14 & x	1011 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	п	14 & x	1011 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	15 & x	0111 1011 1111 1111	No All, except "special" ACC on USIM	246 081	Yes	Yes
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	0111 1111 1111 1111	Yes All, except "special" ACC on USIM	246 081	Yes	Yes

Table 5-1b

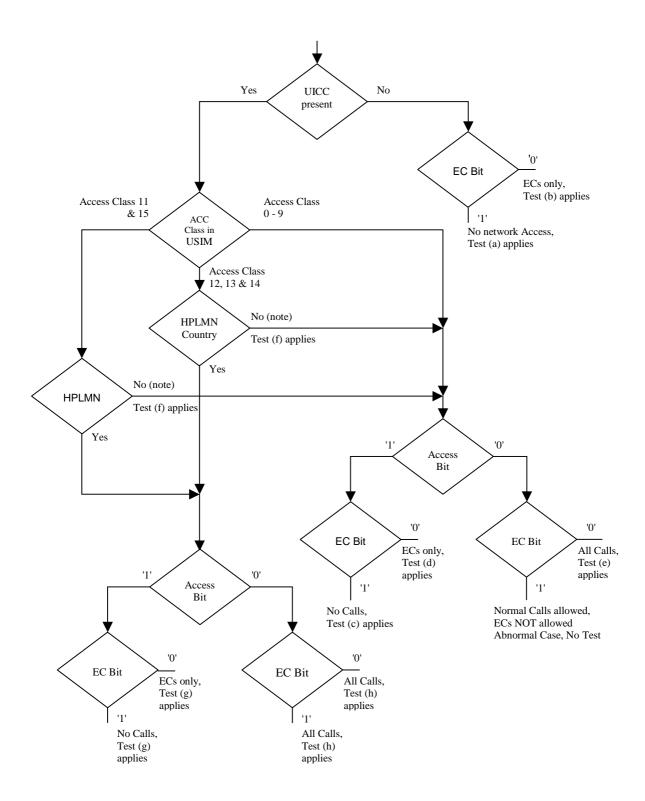
	USIM			Network		Test	Results
	IMSI		RACH	Informative: Cell Barred for:	BCCH/ LAI	Normal Call	Emergency Call
		Access	Octet 3	Emergency Call	MCC		
		Class	Octet 4	Normal Call	MNC		
Test (a)	No UICC in	N/A	0000 0100	Yes	234	No	No
	Terminal		0000 0000	No	001		
Test (b)	No UICC in	N/A	0000 0000	No	234	No	Yes
1 001 (5)	Terminal	14//	0000 0000	No	001	110	100
Test (c)	"2460813579"	0	0000 0100	Yes	246	No	No
			0000 0001	No, except for ACC	081		
	"2460813579"	1	0000 0100	Yes	246	No	No
		•	0000 0010	No, except for ACC	081		
	"2460813579"	2	0000 0100	Yes	246	No	No
			0000 0100	No, except for ACC	081		
	"2460813579"	3	0000 0100	Yes	246	No	No
			0000 1000	No, except for ACC	081		
	"2460813579"	4	0000 0100	Yes	246	No	No
			0001 0000	No, except for ACC	081		
	"2460813579"	5	0000 0100	Yes	246	No	No
		· ·	0010 0000	No, except for ACC	081		
				•			
	"2460813579"	6	0000 0100	Yes	246	No	No
			0100 0000	No, except for ACC	081		
	"2460813579"	7	0000 0100	Yes	246	No	No
		·	1000 0000	No, except for ACC	081		
	"2460813579"	8	0000 0101	Yes	246	No	No
			0000 0000	No, except for ACC	081		
	"2460813579"	9	0000 0110	Yes	246	No	No
		-	0000 0000	No, except for ACC	081		
Test (d)	"2460813579"	0	0000 0000	No	246	No	Yes
			0000 0001	None, except for ACC	081		
	"2460813579"	1	0000 0000	No	246	No	Yes
	2400013373	'	0000 0000	None, except for ACC	081		163
				,			
	"2460813579"	2	0000 0000	No	246	No	Yes
			0000 0100	None, except for ACC	081		
	"2460813579"	3	0000 0000	No	246	No	Yes
	000 .00.0	ū	0000 1000	None, except for ACC	081	'	
				·			
	"2460813579"	4	0000 0000	No	246	No	Yes
			0001 0000	None, except for ACC	081		
	"2460813579"	5	0000 0000	No	246	No	Yes
		•	0010 0000	None, except for ACC	081		
Į.			1	•		1	I

"2460	813579"	6	0000 0000 0100 0000	No None, except for ACC	246 081	No	Yes
"2460	813579"	7	0000 0000 1000 0000	No None, except for ACC	246 081	No	Yes
"2460	813579"	8	0000 0001 0000 0000	No None, except for ACC	246 081	No	Yes
"2460	813579"	9	0000 0010 0000 0000	No None, except for ACC	246 081	No	Yes

Test (e)	"2460813579"	0	1111 1011 1111 1110	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	1	1111 1011 1111 1101	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	2	1111 1011 1111 1011	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	3	1111 1011 1111 0111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	4	1111 1011 1110 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	5	1111 1011 1101 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	6	1111 1011 1011 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2406813579"	7	1111 1011 0111 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	8	1111 1010 1111 1111	No All, except ACC on USIM	246 081	Yes	Yes
	"2460813579"	9	1111 1001 1111 1111	No All, except ACC on USIM	246 081	Yes	Yes
Test (f)	"24608135x9"	11 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	246 082	No	No
	п	11 & x	0000 0011 1111 1111	No All, except ACC greater than 11	246 082	No	Yes
	11	11 & x	0000 0000	No None	246 082	Yes	Yes
	"24608135x9"	12 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	п	12 & x	0000 0011 1111 1111	No All, except ACC greater than 11	244 001	No	Yes
	п	12 & x	0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	13 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	II	13 & x	0000 0011	No	244	No	Yes

			1111 1111	All, except ACC greater than 11	001		
	п	13 & x	0000 0000 0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	14 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	244 001	No	No
	п	14 & x	0000 0011 1111 1111	No All, except ACC greater than 11	244 001	No	Yes
	п	14 & x	0000 0000 0000 0000	No None	244 001	Yes	Yes
	"24608135x9"	15 & x	0000 0111 1111 1111	Yes All, except ACC greater than 11	246 082	No	No
	п	15 & x	0000 0011 1111 1111	No All, except ACC greater than 11	246 082	No	Yes
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	0000 0000	No None	246 082	Yes	Yes
Test (g)	"2460813579"	11 & x	0000 1111 1111 1111	Yes All normal ACC and ACC on USIM	246 081	No	No
	n	11 & x	0000 1011 1111 1111	No All normal ACC and ACC on USIM	246 081	No	Yes
	"2460813579"	12 & x	0001 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
	п	12 & x	0001 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	13 & x	0010 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
	п	13 & x	0010 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	14 & x	0100 0111 1111 1111	Yes All normal ACC and ACC on USIM	246 082	No	No
		14 & x	0100 0011 1111 1111	No All normal ACC and ACC on USIM	246 082	No	Yes
	"2460813579"	15 & x	1000 0111	Yes All normal ACC and ACC on USIM	246 081	No	No

Ì			ĺ			1	
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	1000 0011 1111 1111	No All normal ACC and ACC on USIM	246 081	No	Yes
Test (h)	"2460813579"	11 & x	1111 0011 1111 1111	No All, except "special" ACC on USIM	246 081	Yes	Yes
	п	11 & x	1111 0111 1111 1111	Yes All, except "special" ACC on USIM	246 081	Yes	Yes
	"2460813579"	12 & x	1110 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	н	12 & x	1110 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	13 & x	1101 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	11	13 & x	1101 1111 1111 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	14 & x	1011 1011 1111 1111	No All, except "special" ACC on USIM	246 082	Yes	Yes
	п	14 & x	1011 1111	Yes All, except "special" ACC on USIM	246 082	Yes	Yes
	"2460813579"	15 & x	0111 1011 1111 1111	No All, except "special" ACC on USIM	246 081	Yes	Yes
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	0111 1111 1111 1111	Yes All, except "special" ACC on USIM	246 081	Yes	Yes



NOTE: UE adopts Access Class 0-9, based on IMSI, see TS 22.011 [6].

Access Class in USIM, See TS 31.102 [4], EF ACC, "6F 78".

Ecs: Emergency Calls. EC Bit: In case of GERAN:

Bit 3 of Octet 3 of RACH Control Parameters, See TS 44.018 Clause 10.5.2.29.

In case of UTRAN

Access Class 10 defined in TS 22.011 clause 4.4.

AC Bit: See Access Class Barred List defined in TS 25.331 clause 10.3.2.1.

HPLMN: Country means that the MCC of the VPLMN is the same as the MCC of the HPLMN.

Figure 5-1: Access control information

5.2.2 Access Control information handling for E-UTRAN/EPC

5.2.2.1 Definition and applicability

Access Control allows restriction of EPS bearer context activation access attempts. All User Equipments are assigned to one out of ten randomly allocated classes, and optionally (for priority uses) also to one or more special categories.

An Access Class of the special categories is only valid in the HPLMN or HPLMN country. Otherwise, the randomly allocated class is used.

The classes are programmed on the USIM. The network controls which classes at any time may be barred.

Emergency call handling is FFS.

5.2.2.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopt this value.

Reference:

- TS 31.102 [4], clause 5.1.1.
- If the UE is a member of at least one access class which corresponds to the permitted classes as signalled over the air interface, and the access class is applicable in the serving network, access attempts are allowed.
 Otherwise access attempts are not allowed.

All options are shown in figure 5-2 and are referenced to the tests.

Reference:

- TS 22.011 [6], clauses 4.3 and 4.4,
- TS 24.301 [26], clause 5.5.1.2.6,

5.2.2.3 Test purpose

- 1) To verify that the Terminal reads the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify that the UE controls its network access in accordance with its access control class and the conditions imposed by the serving network.

The tests verify Terminal performance for the following:

Tests (a) to (b) UE with access class 0 to 9.

Test (c) UE with access class 11 and 15 not in HPLMN, and

UE with access class 12,13 and 14 not in HPLMN country.

Test (d) and (e) UE with access class 11 and 15 in HPLMN, and

UE with access class 12,13 and 14 in HPLMN country.

Each of the above are tested against all relevant combinations of access control bits signalled by the network, as shown in table 5-2.

5.2.2.4 Method of test

5.2.2.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): MCC, MNC: see table 5-2, TAC="0001".

- Access control: see table 5-2.

The default UICC is installed in the Terminal containing IMSI and access control values as given in table 5-2 and the UE is powered on.

NOTE: Depending on the initial value of the EF_{EPSLOCI}, the UE may perform a location update. This shall be accepted by the E-USS.

5.2.2.4.2 Coding details

EF_{IMSI}: Data Field "6F 07"

Logical	ly:	IMSI:	"24	60813579	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	75	F9	FF	FF
Logical	ly:	IMSI:	"24	608135x9	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	x5	F9	FF	FF

Access Control class EFACC: Data field "6F 78"

Reference:

• See TS 31.102 [4].

NETWORK (E-USS)

ac-BarringInfo in SystemInformationBlockType2 should be set as in table 5-2:

Reference

• TS 36.331 clause 6.3.1

5.2.2.4.3 Procedure

- a) The terminal is switched on and performs registration if access is allowed for signalling according to table 5-2.
- b) Using the MMI or EMMI a normal EPS bearer context setup is attempted if required by the test.
- c) The test is repeated for each set of values in table 5-2.

5.2.2.5 Acceptance criteria

After step a) the UE shall access the network, or shall make no access attempt, in accordance with table 5-2.

In case in tables 5-2 the cell is indicated as

barred = yes, in these sub-sequences, the UE shall not establish a connection

barred = no, the UE shall establish a connection.

NOTE 1: For conformance testing, to limit testing, in tests (a), (b) and (c) it is only necessary that one of the access classes is tested. This access class may be chosen randomly.

Table 5-2

	USIM			Network		
	IMSI	Access class:	SIBType2: ac-BarringInfo	Cell barred for ATTACH and Default EPS bearer context activation:	MCC MNC for BCCH/ LAI	Cell barred for second (non- default) EPS bearer context setup:
Test (a)	"2460813579"	0	SIBType2_A01		246	Yes
	"2460813579"	1	SIBType2_A01	No	081 246	Yes
				No	081	
	"2460813579"	2	SIBType2_A01	No	246 081	Yes
	"2460813579"	3	SIBType2_A01	No	246 081	Yes
	"2460813579"	4	SIBType2_A01	No	246 081	Yes
	"2460813579"	5	SIBType2_A01	No	246 081	Yes
	"2460813579"	6	SIBType2_A01	No	246 081	Yes
	"2460813579"	7	SIBType2_A01	No	246 081	Yes
	"2460813579"	8	SIBType2_A01	No	246 081	Yes
	"2460813579"	9	SIBType2_A01	No	246 081	Yes
Test (b)	"2460813579"	0	SIBType2_B01	No	246 081	No
	"2460813579"	1	SIBType2_B01	No	246 081	No
	"2460813579"	2	SIBType2_B01	No	246 081	No
	"2460813579"	3	SIBType2_B01	No	246 081	No
	"2460813579"	4	SIBType2_B01	No	246 081	No

"2460813579"	5	SIBType2_B01	No	246 081	No
"2460813579"	6	SIBType2_B01	No	246 081	No
"2460813579"	7	SIBType2_B01	No	246 081	No
"2460813579"	8	SIBType2_B01	No	246 081	No
"2460813579"	9	SIBType2_B01	No	246 081	No

Test (c)	"24608135x9"	11 & x	SIBType2_A01	No	246 082	Yes
	п	11 & x	SIBType2_C11_01	No	246 082	Yes
	n	11 & x	SIBType2_C11_02	Yes	246	N/A (no registration possible as initial condition)
					082	
	"24608135x9"	12 & x	SIBType2_A01	No	244 001	Yes
	п	12 & x	SIBType2_C12_01	No	244 001	Yes
	•	12 & x	SIBType2_C12_02	Yes	244	N/A (no registration possible as initial condition)
	"24608135x9"	13 & x	SIBType2_A01	No	244 001	Yes
	п	13 & x	SIBType2_C13_01	No	244 001	Yes
	"	13 & x	SIBType2_C13_02	Yes	244	N/A (no registration possible as initial condition)
					001	
	"24608135x9"	14 & x	SIBType2_A01	No	244 001	Yes
	п	14 & x	SIBType2_C14_01	No	244 001	Yes
	"	14 & x	SIBType2_C14_02	Yes	244	N/A (no registration possible as initial condition)
	"24608135x9"	15 & x	SIBType2_A01	No	246 082	Yes
	п	15 & x	SIBType2_C15_01	No	246 082	Yes
	"	15 & x	SIBType2_C15_02	Yes	246	N/A (no registration possible as initial condition)
	Set "x" to an arbitrary value in the range 0 to 9				082	
Test (d)	"2460813579"	11 & x	SIBType2_C11_01	No	246 081	Yes
	•	11 & x	SIBType2_C11_02	Yes	246 081	N/A

	"2460813579"	12 & x	SIBType2_C12_01	No	246 082	Yes
	u	12 & x	SIBType2_C12_02	Yes	246 082	N/A
	"2460813579"	13 & x	SIBType2_C13_01	No	246 082	Yes
	п	13 & x	SIBType2_C13_02	Yes	246 082	N/A
	"2460813579"	14 & x	SIBType2_C14_01	No	246 082	Yes
	n	14 & x	SIBType2_C14_02	Yes	246 082	N/A
	"2460813579"	15 & x	SIBType2_C15_01	No	246 081	Yes
	" Set "x" to an arbitrary value in the range 0 to 9	15 & x	SIBType2_C15_02	Yes	246 081	N/A
Test (e)	"2460813579"	11 & x	SIBType2_C11_03	No	246 081	No
	"2460813579"	12 & x	SIBType2_C12_03	No	246 082	No
	"2460813579"	13 & x	SIBType2_C13_03	No	246 082	No
	"2460813579"	14 & x	SIBType2_C14_03	No	246 082	No
	"2460813579" Set "x" to an arbitrary value in the range 0 to 9	15 & x	SIBType2_C15_03	No	246 081	No

Specific message contents for Table 5-2

SystemInformationBlockType2 configuration SIBType2_A01

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'00000'B		
}			
}			
}			

SystemInformationBlockType2 configuration SIBType2_B01

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data	Not present		
}			
}			

SystemInformationBlockType2 configuration SIBType2_C11_01

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'10000'B		
}			
}			
}			

SystemInformationBlockType2 configuration SIBType2_C11_02

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'10000'B		
}			
ac-BarringForMO-Data	Not present		
}			
}			

SystemInformationBlockType2 configuration SIBType2_C11_03

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'01111'B		
}			
}			
}			

SystemInformationBlockType2 configuration SIBType2_C12_01

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'01000'B		
}			
}			
}			

SystemInformationBlockType2 configuration SIBType2_C12_02

Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'01000'B				
}					
ac-BarringForMO-Data	Not present				
}					
}					

SystemInformationBlockType2 configuration SIBType2_C12_03

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling	Not present		
ac-BarringForMO-Data SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'10111'B		
}			
}			
}	·		

SystemInformationBlockType2 configuration SIBType2_C13_01

Derivation Path: 36.508, Table 4.4.3.3-1				
Information Element	Value/remark	Comment	Condition	
SystemInformationBlockType2 ::= SEQUENCE {				
ac-BarringInfo SEQUENCE {				
ac-BarringForEmergency	FALSE			
ac-BarringForMO-Signalling	Not present			
ac-BarringForMO-Data SEQUENCE {				
ac-BarringFactor	p00			
ac-BarringTime	s512			
ac-BarringForSpecialAC	'00100'B			
}				
}				
}				

SystemInformationBlockType2 configuration SIBType2_C13_02

Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'00100'B				
}					
ac-BarringForMO-Data	Not present				
}					
}					

SystemInformationBlockType2 configuration SIBType2_C13_03

Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling	Not present				
ac-BarringForMO-Data SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'11011'B				
}					
}					
}					

SystemInformationBlockType2 configuration SIBType2_C14_01

Derivation Path: 36.508, Table 4.4.3.3-1						
Information Element	Value/remark	Comment	Condition			
SystemInformationBlockType2 ::= SEQUENCE {						
ac-BarringInfo SEQUENCE {						
ac-BarringForEmergency	FALSE					
ac-BarringForMO-Signalling	Not present					
ac-BarringForMO-Data SEQUENCE {						
ac-BarringFactor	p00					
ac-BarringTime	s512					
ac-BarringForSpecialAC	'00010'B					
}						
}						
}						

SystemInformationBlockType2 configuration SIBType2_C14_02

Derivation Path: 36.508, Table 4.4.3.3-1						
Information Element	Value/remark	Comment	Condition			
SystemInformationBlockType2 ::= SEQUENCE {						
ac-BarringInfo SEQUENCE {						
ac-BarringForEmergency	FALSE					
ac-BarringForMO-Signalling SEQUENCE {						
ac-BarringFactor	p00					
ac-BarringTime	s512					
ac-BarringForSpecialAC	'00010'B					
}						
ac-BarringForMO-Data	Not present					
}						
}						

SystemInformationBlockType2 configuration SIBType2_C14_03

Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling	Not present				
ac-BarringForMO-Data SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'11101'B				
}					
}					
}					

SystemInformationBlockType2 configuration SIBType2_C15_01

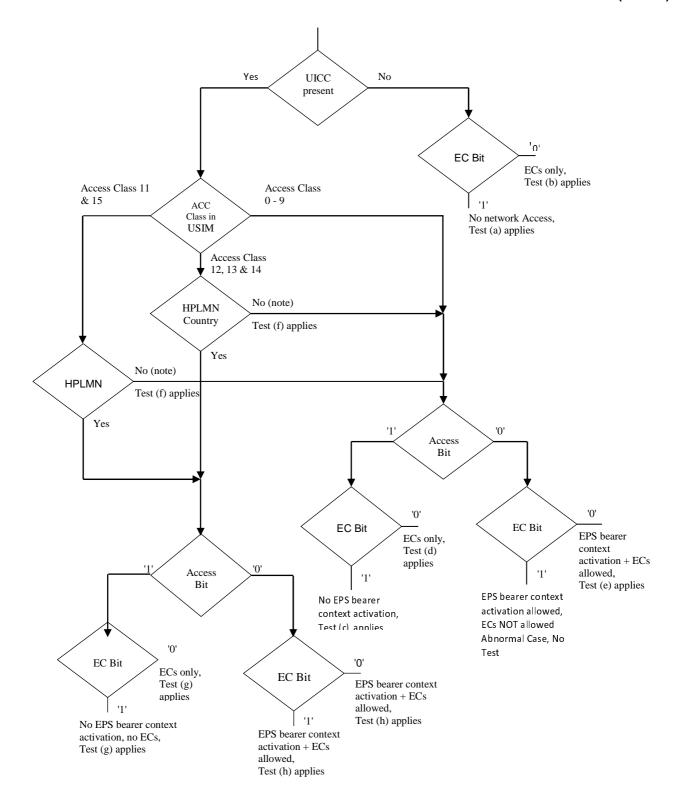
Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling	Not present				
ac-BarringForMO-Data SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'00001'B				
}					
}					
}					

SystemInformationBlockType2 configuration SIBType2_C15_02

Derivation Path: 36.508, Table 4.4.3.3-1			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType2 ::= SEQUENCE {			
ac-BarringInfo SEQUENCE {			
ac-BarringForEmergency	FALSE		
ac-BarringForMO-Signalling SEQUENCE {			
ac-BarringFactor	p00		
ac-BarringTime	s512		
ac-BarringForSpecialAC	'00001'B		
}			
ac-BarringForMO-Data	Not present		
}			
}			

SystemInformationBlockType2 configuration SIBType2_C15_03

Derivation Path: 36.508, Table 4.4.3.3-1					
Information Element	Value/remark	Comment	Condition		
SystemInformationBlockType2 ::= SEQUENCE {					
ac-BarringInfo SEQUENCE {					
ac-BarringForEmergency	FALSE				
ac-BarringForMO-Signalling	Not present				
ac-BarringForMO-Data SEQUENCE {					
ac-BarringFactor	p00				
ac-BarringTime	s512				
ac-BarringForSpecialAC	'11110'B				
}					
}					
}					



Editor's note: the flow chart is currently for information only and has to be updated to be in line with 36.331, this is

NOTE: UE adopts Access Class 0-9, based on IMSI, see TS 22.011 [6].

Access Class in USIM, See TS 31.102 [4], EF ACC, "6F 78".

ECs: Emergency Calls.

EC Bit: see description in 36.331, clause 6.3.1

Access Class 10 defined in TS 22.011 clause 4.4.

AC Bit: see description in 36.331, clause 6.3.1.

HPLMN: Country means that the MCC of the VPLMN is the same as the MCC of the HPLMN.

Figure 5-2: Access control information

5.2.3 Access Control information handling for NB-IoT

5.2.3.1 Definition and applicability

Access Control allows restriction on RRC connection establishment attempts. All User Equipments are assigned to one out of ten randomly allocated classes, and optionally (for priority uses) also to one or more special categories.

An Access Class of the special categories is only valid in the HPLMN or HPLMN country. Otherwise, the randomly allocated class is used.

The classes are programmed on the USIM. The network controls which classes at any time may be barred.

5.2.3.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopt this value.

Reference:

- TS 31.102 [4], clause 5.1.1.
- If the UE is a member of at least one access class which corresponds to the permitted classes as signalled over the air interface, and the access class is applicable in the serving network, access attempts are allowed.
 Otherwise access attempts are not allowed.

Reference:

- TS 22.011 [6], clauses 4.3 and 4.4,
- TS 24.301 [26], clause 5.5.1.2.6,

5.2.3.3 Test purpose

- 1) To verify that the Terminal reads the access control value as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify that the UE controls its network access in accordance with its access control class and the conditions imposed by the serving network.

The tests verify Terminal performance for the following:

Tests (a) to (b) UE with access class 0 to 9.

Test (c) UE with access class 11 and 15 not in HPLMN, and

UE with access class 12,13 and 14 not in HPLMN country.

Test (d) and (e) UE with access class 11 and 15 in HPLMN, and

UE with access class 12,13 and 14 in HPLMN country.

Each of the above are tested against all relevant combinations of access control bits signalled by the network, as shown in table 5-3.

5.2.3.4 Method of test

5.2.3.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC): MCC, MNC: see table 5-3, TAC="0001".

- Access control: see table 5-3.

The default UICC is installed in the Terminal containing IMSI and access control values as given in table 5-3 and the UE is powered on.

NOTE: Depending on the initial value of the EF_{EPSLOCI}, the UE may perform a location update. This shall be accepted by the NB-SS.

5.2.3.4.2 Coding details

EF_{IMSI}: Data Field "6F 07"

Logical	ly:	IMSI:	"24	60813579	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	75	F9	FF	FF
Logical	ly:	IMSI:	"24	608135x9	"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	x5	F9	FF	FF

Access Control class EFACC: Data field "6F 78"

Reference:

• See TS 31.102 [4].

NETWORK (NB-SS)

ab-Enabled included in MasterInformationBlock-NB is set to TRUE and in SystemInformationBlockType14-NB should be set as in table 5-3.

Reference

• TS 36.331 clause 6.7.3.1.

5.2.3.4.3 Procedure

- a) The terminal is switched on and performs registration if access is allowed for signalling according to table 5-3.
- b) The test is repeated for each set of values in table 5-3.

5.2.3.5 Acceptance criteria

After step a) the UE shall access the network, or shall make no access attempt, in accordance with table 5-3.

In case in tables 5-3 the cell is indicated as

barred = yes, in these sub-sequences, the UE shall not establish a connection

barred = no, the UE shall establish a connection.

NOTE 1: For conformance testing, to limit testing, in tests (a), (b) and (c) it is only necessary that one of the access classes is tested. This access class may be chosen randomly.

Table 5-3

USIM			Network		
	IMSI	AC	SIBType14-NB:	Cell barred for RRC connection establishment / resume :	MCC MNC for BCCH/LAI
Test (a)	"2460813579"	0	SIBType14-NB_A00	Yes	246 081
	"2460813579"	1	SIBType14-NB_A01	Yes	246 081
	"2460813579"	2	SIBType14-NB_A02	Yes	246 081
	"2460813579"	3	SIBType14-NB_A03	Yes	246 081
	"2460813579"	4	SIBType14-NB_A04	Yes	246 081
	"2460813579"	5	SIBType14-NB_A05	Yes	246 081
	"2460813579"	6	SIBType14-NB_A06	Yes	246 081
	"2460813579"	7	SIBType14-NB_A07	Yes	246 081
	"2460813579"	8	SIBType14-NB_A08	Yes	246 081
	"2460813579"	9	SIBType14-NB_A09	Yes	246 081
Test (b)	"2460813579"	0	SIBType14-NB_B01	No	246 081
	"2460813579"	1	SIBType14-NB_B01	No	246 081
	"2460813579"	2	SIBType14-NB_B01	No	246 081
	"2460813579"	3	SIBType14-NB_B01	No	246 081
	"2460813579"	4	SIBType14-NB_B01	No	246 081
	"2460813579"	5	SIBType14-NB_B01	No	246 081
	"2460813579"	6	SIBType14-NB_B01	No	246 081
	"2460813579"	7	SIBType14-NB_B01	No	246 081
	"2460813579"	8	SIBType14-NB_B01	No	246 081
	"2460813579"	9	SIBType14-NB_B01	No	246 081

Test (c)	"24608135x9"	11 & 2	SIBType14-NB_C11_01	Yes	246 082
	"	11 & 2	SIBType14-NB_C11_02	Yes	246 082
	"24608135x9"	12 & 5	SIBType14-NB_C12_01	Yes	244 001
	н	12 & 5	SIBType14-NB_C12_02	Yes	244 001
	"24608135x9"	13 & 4	SIBType14-NB_C13_01	Yes	244 001
	ıı	13 & 4	SIBType14-NB_C13_02	Yes	244 001
	"24608135x9"	14 & 9	SIBType14-NB_C14_01	Yes	244 001
	"	14 & 9	SIBType14-NB_C14_02	Yes	244 001
	"24608135x9"	15 & 0	SIBType14-NB_C15_01	Yes	246 082
	п	15 & 0	SIBType14-NB_C15_02	Yes	246 082
Test (d)	"2460813579"	11 & 2	SIBType14-NB_C11_01	Yes	246 081
	"2460813579"	12 & 5	SIBType14-NB_C12_01	Yes	246 082
	"2460813579"	13 & 4	SIBType14-NB_C13_01	Yes	246 082
	"2460813579"	14 & 9	SIBType14-NB_C14_01	Yes	246 082
	"2460813579"	15 & 0	SIBType14-NB_C15_01	Yes	246 081
Test (e)	"2460813579"	11 & 2	SIBType14-NB_C11_03	No	246 081
	"2460813579"	12 & 5	SIBType14-NB_C12_03	No	246 082
	"2460813579"	13 & 4	SIBType14-NB_C13_03	No	246 082
	"2460813579"	14 & 9	SIBType14-NB_C14_03	No	246 082
	"2460813579"	15 & 0	SIBType14-NB_C15_03	No	246 081

Specific message contents for Table 5-3

SystemInformationBlockType14-NB configuration SIBType14-NB_A00

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'1000000000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::= SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0100000000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0010000000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0001000000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present	·	
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A04

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000100000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A05

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000010000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A06

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000001000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A07

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000100'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A08

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000010'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_A09

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000001'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_B01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000000'B		
ab-BarringExceptionData-r13	Not present		
ab-BarringForSpecialAC-r13	'00000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C11_01

Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0010000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'10000'B		
}			
}			
lateNonCriticalExtension	Not present		
lateNonCriticalExtension }	Not present		

SystemInformationBlockType14-NB configuration SIBType14-NB_C11_02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	b		
ab-BarringBitmap-r13	'0010000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'10000'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C11_03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0010000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'01111'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C12_01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000010000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'01000'B		
}			
}		·	
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C12_02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	b		
ab-BarringBitmap-r13	'0000010000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'01000'B		
}			
}			
lateNonCriticalExtension	Not present	·	
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C12_03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::= SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000010000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'10111'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C13_01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000100000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00100'B		
}			
}		·	
lateNonCriticalExtension	Not present		
}		_	

SystemInformationBlockType14-NB configuration SIBType14-NB_C13_02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	b		
ab-BarringBitmap-r13	'0000100000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00100'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C13_03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'0000100000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'11011'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C14_01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000001'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00010'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C14_02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	b		
ab-BarringBitmap-r13	'000000001'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00010'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C14_03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'000000001'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'11101'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C15_01

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::= SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'1000000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00001'B		
}			
}		·	
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C15_02

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	b		
ab-BarringBitmap-r13	'1000000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'00001'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

SystemInformationBlockType14-NB configuration SIBType14-NB_C15_03

Derivation Path: 36.508 Table 8.1.4.3.3-5			
Information Element	Value/remark	Comment	Condition
SystemInformationBlockType14-NB-r13 ::=			
SEQUENCE {			
ab-Param-r13 CHOICE {			
ab-Common-r13 SEQUENCE {			
ab-Category-r13	а		
ab-BarringBitmap-r13	'1000000000'B		
ab-BarringExceptionData-r13	FALSE		
ab-BarringForSpecialAC-r13	'11110'B		
}			
}			
lateNonCriticalExtension	Not present		
}			

5.3 Handling subscription identifier privacy for 5G

5.3.1 SUCI calculation by ME using null scheme

5.3.1.1 Definition and applicability

If the operator's decision is that ME shall calculate the SUCI, the home network operator shall provision a list of the Protection Scheme Identifiers in the USIM that the operator allows. The list of Protection Scheme Identifiers in the USIM may contain one or more Protection Scheme Identifiers in the order of their priority. The ME shall read the SUCI calculation information from the USIM, including the SUPI, the Home Network Public Key, the Home Network Public Key Identifier, and the list of Protection Scheme Identifiers. The ME shall select the protection scheme from its supported schemes that has the highest priority in the list obtained from the USIM.

The ME shall calculate the SUCI using the null-scheme if the highest priority of the protection schemes listed in the USIM is the null-scheme.

5.3.1.2 Conformance requirement

- 1) SUCI calculation procedure shall be performed by the ME if Service $n^{\circ}124$ is "available" and Service $n^{\circ}125$ is not "available" in EF_{UST}
- 2) As part of the SUCI calculation performed by the ME, the ME performs the reading procedure for EF_{SUCI Calc Info}.
- 3) The ME shall calculate the SUCI using the null-scheme if highest priority of the protection schemes listed in the USIM is the null-scheme.

Reference:

- TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- TS 33.501 [41], clause Annex C;
- TS 24.501 [42], clause 5.5.1.2, 5.5.1.2.4.

5.3.1.3 Test purpose

- To verify that the READ EF_{SUCI_Calc_Info}, EF_{Routing_Indicator} and EF_{IMSI} commands are performed correctly by the ME.
- 2) To verify that the ME performs the SUCI calculation procedure using null-scheme.

5.3.1.4 Method of test

5.3.1.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

EF_{SUCI_Calc_Info} (Subscription Concealed Identifier Calculation Information EF)

Logically:

Protection Scheme Identifier List data object

Protection Scheme Identifier 1 – null-scheme

Key Index 1:0

Protection Scheme Identifier 2 – ECIES scheme profile B

Key Index 2: 1

Protection Scheme Identifier 3 – ECIES scheme profile A

Key Index 3: 2

Home Network Public Key List data object

Home Network Public Key 1 Identifier: 27

Home Network Public Key 1:

- 02 72 DA 71 97 62 34 CE 83 3A 69 07 42 58 67 B8 2E 07 4D 44 EF 90 7D FB 4B 3E 21 C1 C2 25 6E BC D1

Home Network Public Key 2 Identifier: 30

Home Network Public Key 2:

- 5A 8D 38 86 48 20 19 7C 33 94 B9 26 13 B2 0B 91 63 3C BD 89 71 19 27 3B F8 E4 A6 F4 EE C0 A6 50

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	A0	06	00	00	02	01	01	02
	B9	B10	B11	B12	B13	B14	B15	B16
	A1	4F	80	01	1B	81	21	02
	B17	B18	B19	B20	B21	B22	B23	B24
	72	DA	71	97	62	34	CE	83
	B25	B26	B27	B28	B29	B30	B31	B32
	3A	69	07	42	58	67	B8	2E
	B33	B34	B35	B36	B37	B38	B39	B40
	07	4D	44	EF	90	7D	FB	4B
	B41	B42	B43	B44	B45	B46	B47	B48
	3E	21	C1	C2	25	6E	BC	D1
	B49	B50	B51	B52	B53	B54	B55	B56
	80	01	1E	81	20	5A	8D	38
	B57	B58	B59	B60	B61	B62	B63	B64
	86	48	20	19	7C	33	94	B9
	B65	B66	B67	B68	B69	B70	B71	B72
	26	13	B2	0B	91	63	3C	BD
	B73	B74	B75	B76	B77	B78	B79	B80
	89	71	19	27	3B	F8	E4	A6
	B81	B82	B83	B84	B85			
	F4	EE	C0	A6	50			

The UICC is installed into the Terminal.

5.3.1.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) Upon reception of REGISTRATION ACCEPT message with a 5G-GUTI, the UE sends REGISTRATION COMPLETE message to the NG-SS.

5.3.1.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI} , $EF_{Routing_Indicator}$ and $EF_{SUCI_Calc_Info.}$
- 2) After step b) the UE shall include the SUCI as coded below in the 5GS mobile identity IE in the *REGISTRATION REQUEST*.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17

Protection scheme id: 00

Home network public key Id: 0

Scheme output: 357935793

5.3.2 SUCI calculation by ME using Profile B

5.3.2.1 Definition and applicability

If the operator's decision is that ME shall calculate the SUCI, the home network operator shall provision a list of the Protection Scheme Identifiers that the operator allows in the USIM. The list of Protection Scheme Identifiers in the USIM may contain one or more Protection Scheme Identifiers in order of their priority. The ME shall read the SUCI calculation information from the USIM, including the SUPI, the Home Network Public Key, the Home Network Public Key Identifier, and the list of Protection Scheme Identifiers. The ME shall select the protection scheme from its supported schemes that has the highest priority in the list obtained from the USIM.

5.3.2.2 Conformance requirement

- 1) SUCI calculation procedure shall be performed by the ME if Service $n^{\circ}124$ is "available" and Service $n^{\circ}125$ is not "available" in EF_{UST}
- 2) As part of the SUCI calculation performed by the ME, the ME performs the reading procedure with $EF_{SUCI\ Calc\ Info}$.
- 3) The ME shall calculate the SUCI using the highest priority supported protection scheme and the home network public key stored on the USIM.

Reference:

- 3GPP TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- 3GPP TS 33.501 [41], clause Annex C;
- 3GPP TS 24.501 [42], clause 5.5.1.2, 5.5.1.2.4.

5.3.2.3 Test purpose

- 1) To verify that the READ $EF_{Routing_Indicator}$, $EF_{SUCI_Calc_Info}$ and EF_{IMSI} commands are performed correctly by the terminal.
- 2) To verify that the ME performs the SUCI calculation procedure using the profile with the highest priority (i.e. ECIES scheme profile B and the home network public key).

5.3.2.4 Method of test

5.3.2.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The default 5G-NR UICC is used and the UICC is installed into the ME.

The NG-SS shall be configured with Home Network Private Key as following:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	F1	AB	10	74	47	7E	BC	C7
	B9	B10	B11	B12	B13	B14	B15	B16
	F5	54	EA	1C	5F	C3	68	B1
	B17	B18	B19	B20	B21	B22	B23	B24
	61	67	30	15	5E	00	41	AC
	B25	B26	B27	B28	B29	B30	B31	B32
	44	7D	63	01	97	5F	EC	DA

5.3.2.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) Upon reception of REGISTRATION ACCEPT message with a new 5G-GUTI, the UE sends REGISTRATION COMPLETE message to the NG-SS.

5.3.2.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI}, EF_{Routing_Indicator} and EF_{SUCI_Calc_Info.}
- 2) After step b) the UE shall include the SUCI (coded below) in the 5GS mobile identity IE in the REGISTRATION REQUEST.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17

Protection scheme id: 02

Home network public key Id: 27

Scheme output: ECC ephemeral public key, encryption of 357935793 and MAC tag value

5.3.3 UE identification by SUCI during initial registration – SUCI calculation by USIM

5.3.3.1 Definition and applicability

If the operator's decision, indicated by the USIM, is that the USIM shall calculate the SUCI, then the USIM shall not give the ME any parameter for the calculation of the SUCI including the Home Network Public Key Identifier, the Home Network Public Key, and the Protection Scheme Identifier. If the ME determines that the calculation of the SUCI, indicated by the USIM, shall be performed by the USIM, the ME shall delete any previously received or locally cached parameters for the calculation of the SUCI including the Routing Indicator, the Home Network Public Key Identifier, the Home Network Public Key and the Protection Scheme Identifier.

5.3.3.2 Conformance requirement

- 1) SUCI calculation procedure shall be performed by the USIM if service $n^{\circ}124$ is "available" in EF_{UST} and service $n^{\circ}125$ is "available" in EF_{UST}.
- 2) The ME shall use the GET IDENTITY command in SUCI context to retrieve the SUCI calculated by the USIM.
- 3) This GET IDENTITY command shall be as per 7.5.2 in TS 31.102

Reference:

- TS 31.102 [4], subclauses 4.4.11.8, 5.3.48 and 7.5;
- TS 33.501 [41], subclause Annex C;
- TS 24.501 [42], subclause 5.5.1.2.2.

5.3.3.3 Test purpose

1) To verify that the GET IDENTITY command is performed correctly by the terminal.

2) To verify that the terminal includes the SUCI received from the 5G-NR UICC within GET IDENTITY response in the 5GS mobile identity IE.

5.3.3.4 Method of test

5.3.3.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC): 244/083/000001.

- Access control: unrestricted.

The default 5G-NR UICC is used and the UICC is installed into the Terminal.

The NG-SS shall be configured with Home Network Private Key for profile B:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	F1	AB	10	74	47	7E	BC	C7
	B9	B10	B11	B12	B13	B14	B15	B16
	F5	54	EA	1C	5F	C3	68	B1
	B17	B18	B19	B20	B21	B22	B23	B24
	61	67	30	15	5E	00	41	AC
	B25	B26	B27	B28	B29	B30	B31	B32
	44	7D	63	01	97	5F	EC	DA

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available

Service n° 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support available

SUCI calculation by USIM available

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xxxx	xxxx xxxx	xxxx xxxx
	B9 xxxx xxxx	B10 xxxx xxxx	B11 xx11 xxxx		B16 xxx1 111x			

5G-NR UICC is configured with:

Protection Scheme Identifier: ECIES scheme profile B

Key Index: 1

Home Network Public Key Identifier: 27

Home Network Public Key:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	02	72	DA	71	97	62	34	CE
	B9	B10	B11	B12	B13	B14	B15	B16
	83	3A	69	07	42	58	67	B8
	B17	B18	B19	B20	B21	B22	B23	B24
	2E	07	4D	44	EF	90	7D	FB
	B25	B26	B27	B28	B29	B30	B31	B32
	4B	3E	21	C1	C2	25	6E	BC
	B33							
	D1							

EF_{SUCI Calc Info} (Subscription Concealed Identifier Calculation Information EF): Not available

5.3.3.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends *REGISTRATION REQUEST* to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) Upon reception of *REGISTRATION ACCEPT* message with a 5G-GUTI, the UE sends *REGISTRATION COMPLETE* message to the NG-SS.

5.3.3.5 Acceptance criteria

- After step a) the ME shall send GET IDENTITY command with Identity Context in P2 as SUCI (0x01) to the 5G-NR UICC
- 2) After step b) the UE shall include the SUCI (coded below) in the 5GS mobile identity IE in the *REGISTRATION REQUEST*.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17 Protection scheme id: 02 Home network public key Id: 27

Scheme output: ECC ephemeral public key, encryption of 357935793 and MAC tag value

5.3.4 UE identification by SUCI in response to IDENTITY REQUEST message

5.3.4.1 Definition and applicability

The identification procedure is specified to request a particular UE to provide specific identification parameters, e.g. the SUCI or the IMEI. The SUCI is a privacy preserving identifier containing the concealed SUPI and IMEI is a format of PEI

The network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and starting timer T3570. The IDENTITY REQUEST message specifies the requested identification parameters in the Identity type information element and the UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.

5.3.4.2 Conformance requirement

- A UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.
- 2) Upon receipt of the IDENTITY REQUEST message, if the Identity type IE in the IDENTITY REQUEST message is set to "SUCI", the UE shall:
 - if timer T3519 is not running, generate a fresh SUCI as specified in 3GPP TS 33.501 [41], send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and

- if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI.
- 4) If the REGISTRATION ACCEPT message contained a 5G-GUTI, the UE shall return a REGISTRATION COMPLETE message to the AMF to acknowledge the received 5G-GUTI, stop timer T3519 if running, and delete any stored SUCI.

Reference:

- TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- TS 33.501 [41], clauses 6.12.4 and Annex C;
- TS 24.501 [42], clauses 5.5.1.2.4 and 5.4.3.

5.3.4.3 Test purpose

- 1) To verify that the READ EF_{SUCI_Calc_Info}, EF_{Routing_Indicator} and EF_{IMSI} commands are performed correctly by the terminal.
- 2) To verify that the UE will perform SUCI calculation procedure correctly.
- 3) To verify that upon reception of the IDENTITY REQUEST message with Identity type IE set to "SUCI", the UE will:
 - if timer T3519 is not running, generate a fresh SUCI, send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and
 - if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI
- 4) To verify that upon reception of the REGISTRATION ACCEPT message containing a 5G-GUTI UE deletes the stored SUCI.

5.3.4.4 Method of test

5.3.4.4.1 Initial conditions

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

Cell A - TAI (MCC/MNC/TAC):244/083/000001.

Access control: unrestricted.

Cell B - TAI (MCC/MNC/TAC):244/084/000001.

Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

EF5GS3GPPLOCI (5GS 3GPP location information)

Logically:

5G-GUTI:244083 00010266436587

TAI: 244 083 000001

5GS update status: 5U2 NOT UPDATED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	00	0B	F2	42	34	80	00	01
	B9	B10	B11	B12	B13	B14	B15	B16
	02	66	43	65	87	42	34	80
	B17	B18	B19	B20				
	00	00	01	01				

The UICC is installed into the terminal.

5.3.4.4.2 Procedure

- a) Bring up the Cell A and the UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- c) NG-SS sends IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI" and starts timer T3570.
- d) The UE sends IDENTITY RESPONSE message with the fresh generated SUCI, starts timer T3519 and stores the value of the SUCI sent in the IDENTITY RESPONSE message.
- e) NG-SS should ignore the IDENTITY RESPONSE sent by the UE and shall resend IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI" before the expiry of T3519.
- f) The UE sends the IDENTITY RESPONSE message with the stored SUCI.
- g) NG-SS accepts IDENTITY RESPONSE message and upon reception of REGISTRATION ACCEPT message with a 5G-GUTI by UE, UE sends REGISTRATION COMPLETE message to the NG-SS, stops T3519 and deletes stored SUCI.
- h) Bring down Cell A and bring up Cell B.
- i) The UE sends REGISTRATION REQUEST to the Cell B NG-SS indicating the 5GS registration type IE as "mobility registration updating" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- j) NG-SS sends IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI" and starts timer T3570.
- k) The UE sends IDENTITY RESPONSE message with the fresh generated SUCI, starts timer T3519 and stores the value of the SUCI sent in the IDENTITY RESPONSE message.
- NG-SS accepts IDENTITY RESPONSE message and upon reception of REGISTRATION ACCEPT message with a 5G-GUTI by UE, UE sends REGISTRATION COMPLETE message to the NG-SS, stops T3519 and deletes stored SUCI.

5.3.4.5 Acceptance criteria

- a) In step d) the UE shall send IDENTITY RESPONSE with new generated SUCI.
- b) In step f) the UE shall send IDENTITY RESPONSE with the same SUCI generated in step d).
- c) In step k) the UE shall send IDENTITY RESPONSE with new generated SUCI.

5.3.5 UE identification by SUCI in response to IDENTITY REQUEST message with T3519 timer expiry

5.3.5.1 Definition and applicability

The identification procedure is specified to request a particular UE to provide specific identification parameters, e.g. the SUCI or the IMEI. The SUCI is a privacy preserving identifier containing the concealed SUPI and IMEI is a format of PEI.

The network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and starting timer T3570. The IDENTITY REQUEST message specifies the requested identification parameters in the Identity type information element and the UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.

5.3.5.2 Conformance requirement

- 1) A UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.
- 2) Upon receipt of the IDENTITY REQUEST message, if the Identity type IE in the IDENTITY REQUEST message is set to "SUCI", the UE shall:
 - if timer T3519 is not running, generate a fresh SUCI as specified in 3GPP TS 33.501 [41], send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and
 - if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI.
- 3) If the REGISTRATION ACCEPT message contained a 5G-GUTI, the UE shall return a REGISTRATION COMPLETE message to the AMF to acknowledge the received 5G-GUTI, stop timer T3519 if running, and delete any stored SUCI.
- 4) On expiry of T3519 (60s) timer UE shall delete stored SUCI (Table 10.2.1 in 3GPP TS 24.501 [42]).
- 5) During initial registration the UE handles the 5GS mobile identity IE in the following order as defined in TS 24.501 clause 5.5.1.2.2:
 - a) a valid 5G-GUTI assigned by the same PLMN;
 - c) a valid 5G-GUTI assigned by an equivalent PLMN;
 - d) a valid 5G-GUTI assigned by any other PLMN;
 - e) a SUCI is available in the UE;

Reference:

- 3GPP TS 31.102 [4], subclauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- 3GPP TS 33.501 [41], subclauses 6.12.2 and Annex C;
- 3GPP TS 24.501 [42], subclauses 5.5.1.2.2, 5.5.1.2.4 and 5.4.3.

5.3.5.3 Test purpose

- 1) To verify that the READ EF_{SUCI_Calc_Info}, EF_{Routing_Indicator} and EF_{IMSI} commands are performed correctly by the terminal.
- 2) To verify that the UE will perform SUCI calculation procedure correctly.
- 3) To verify that upon reception of the IDENTITY REQUEST message with Identity type IE set to "SUCI", the UE will:
 - if timer T3519 is not running, generate a fresh SUCI, send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and
 - if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI.
- 4) To verify that upon expiry of T3519 UE deletes the stored SUCI.
- 5) To verify UE handles the 5GS mobile identity IE in the correct order during initial registration and use 5G-GUTI as identity when it has a valid 5G-GUTI and the SUCI both.

5.3.5.4 Method of test

5.3.5.4.1 Initial conditions

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

Cell A -TAI (MCC/MNC/TAC): 244/083/000001.

Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

EF5GS3GPPLOCI (5GS 3GPP location information)

Logically:

5G-GUTI: 244083 00010266436587

TAI: 244 083 000001

5GS update status: 5U2 NOT UPDATED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	00	0B	F2	42	34	80	00	01
	B9	B10	B11	B12	B13	B14	B15	B16
	02	66	43	65	87	42	34	80
	B17	B18	B19	B20				
	00	00	01	01				

The UICC is installed into the Terminal.

5.3.5.4.2 Procedure

- a) Bring up the Cell A and the UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- c) NG-SS sends IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI", then the UE sends IDENTITY RESPONSE message with the fresh generated SUCI, starts timer T3519 and stores the value of the SUCI sent in the IDENTITY RESPONSE message.
- d) Bring down Cell A and bring up Cell B before the expiry of T3519.
- e) While T3519 is still running, the UE sends *REGISTRATION REQUEST* to the Cell B NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- f) NG-SS sends IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI", then the UE sends IDENTITY RESPONSE message with the stored SUCI.
- g) Bring down Cell B and bring up Cell A after 70 sec (that is, after T3519 expires).
- h) The UE sends *REGISTRATION REQUEST* to the Cell A NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- i) NG-SS sends *IDENTITY REQUEST* message to the UE indicating Identity type information element is "SUCI", then the UE sends *IDENTITY RESPONSE* message with a freshly generated SUCI, start timer T3519 and store the value of the SUCI sent in the *IDENTITY RESPONSE* message.
- j) NG-SS sends *REGISTRATION ACCEPT* message with a 5G-GUTI, upon receipt of this message, the UE shall stop T3519 timer and delete any stored SUCI
- k) Upon reception of *REGISTRATION ACCEPT* message, the UE sends *REGISTRATION COMPLETE* message to the NG-SS

5.3.5.5 Acceptance criteria

- a) In step c) the UE shall send IDENTITY RESPONSE with new generated SUCI.
- b) In step f) the UE shall send *IDENTITY RESPONSE* with the stored SUCI in step c)
- c) In step i) the UE shall send *IDENTITY RESPONSE* with new generated SUCI.

5.3.6 UE identification by SUCI in response to IDENTITY REQUEST message and AUTHENTICATION REJECT

5.3.6.1 Definition and applicability

The identification procedure is specified to request a particular UE to provide specific identification parameters, e.g. the SUCI or the IMEI. The SUCI is a privacy preserving identifier containing the concealed SUPI and IMEI is a format of PEI.

The network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and starting timer T3570. The IDENTITY REQUEST message specifies the requested identification parameters in the Identity type information element and the UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.

5.3.6.2 Conformance requirement

- 1) A UE shall be ready to respond to an IDENTITY REQUEST message at any time whilst in 5GMM-CONNECTED mode.
- 2) Upon receipt of the IDENTITY REQUEST message, if the Identity type IE in the IDENTITY REQUEST message is set to "SUCI", the UE shall:
 - if timer T3519 is not running, generate a fresh SUCI as specified in 3GPP TS 33.501 [41], send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and
 - if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI.
- 3) If the REGISTRATION ACCEPT message contained a 5G-GUTI, the UE shall return a REGISTRATION COMPLETE message to the AMF to acknowledge the received 5G-GUTI, stop timer T3519 if running, and delete any stored SUCI.
- 4) If the AUTHENTICATION REJECT message is received by the UE, the UE shall abort any 5GMM signalling procedure, stop any of the timers T3510, T3516, T3517, T3519 or T3521 (if they were running), delete stored SUCI and enter state 5GMM-DEREGISTERED.

Reference:

- TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- TS 33.501 [41], clauses 6.12.2 and Annex C;
- TS 24.501 [42], clauses 5.5.1.2.2, 5.5.1.2.4, 5.4.3, 5.4.1.3.5 and 5.4.1.2.2.11.

5.3.6.3 Test purpose

- 1) To verify that the READ EF_{SUCI_Calc_Info}, EF_{Routing_Indicator} and EF_{IMSI} commands are performed correctly by the terminal.
- 2) To verify that the UE will perform SUCI calculation procedure correctly.
- 3) To verify that upon reception of the IDENTITY REQUEST message with Identity type IE set to "SUCI", the UE will:
 - if timer T3519 is not running, generate a fresh SUCI as specified in 3GPP TS 33.501 [41], send an IDENTITY RESPONSE message with the SUCI, start timer T3519 and store the value of the SUCI sent in the IDENTITY RESPONSE message; and

- if timer T3519 is running, send an IDENTITY RESPONSE message with the stored SUCI.
- 4) To verify that upon receiving AUTHENTICATION REJECT UE deletes the stored SUCI

5.3.6.4 Method of test

5.3.6.4.1 Initial conditions

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

Cell A -TAI (MCC/MNC/TAC): 244/083/000001.

Access control: unrestricted.

Cell B -TAI (MCC/MNC/TAC): 244/084/000001.

Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

EF5GS3GPPLOCI (5GS 3GPP location information)

Logically:

5G-GUTI: 244083 00010266436587

TAI: 244 083 000001

5GS update status: 5U2 NOT UPDATED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	00	0B	F2	42	34	80	00	01
	B9	B10	B11	B12	B13	B14	B15	B16
	02	66	43	65	87	42	34	80
	B17	B18	B19	B20				
	00	00	01	01				

The UICC is installed into the Terminal.

5.3.6.4.2 Procedure

- a) Bring up the Cell A and the UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the Cell A, indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- c) NG-SS sends IDENTITY REQUEST message to the UE indicating Identity type information element is "SUCI, then the UE sends IDENTITY RESPONSE message with the fresh generated SUCI and start T3519 timer.
- d) NG-SS sends AUTHENTICATION REQUEST to the UE.
- e) Upon receiving AUTHENTICATION RESPONSE from UE NG-SS sends AUTHENTICATION REJECT.
- f) UE stops T3519 timer and deletes the stored SUCI.
- g) Bring down Cell A and bring up Cell B, switch off and then switch on UE.
- h) The UE sends REGISTRATION REQUEST to the Cell B NG-SS indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI", with fresh SUCI then the UE starts timer T3519.
- i) NG-SS sends REGISTRATION ACCEPT message with a 5G-GUTI, upon receipt of this message, the UE shall stop T3519 timer and delete any stored SUCI.

j) Upon reception of REGISTRATION ACCEPT message, the UE sends REGISTRATION COMPLETE message to the NG-SS.

5.3.6.5 Acceptance criteria

- a) In step c) the UE shall send IDENTITY RESPONSE with new generated SUCI
- b) In step h) the UE shall send a fresh generated SUCI.

5.3.7 SUCI calculation by the ME using null scheme – missing parameters for subscription identifier privacy support by the USIM

5.3.7.1 Definition and applicability

If the operator's decision is that ME shall calculate the SUCI, the home network operator shall provision a list of the Protection Scheme Identifiers that the operator allows in the USIM. The list of Protection Scheme Identifiers in the USIM may contain one or more Protection Scheme Identifiers in order of their priority. The ME shall read the SUCI calculation information from the USIM, including the SUPI, the Home Network Public Key, the Home Network Public Key Identifier, and the list of Protection Scheme Identifiers. The ME shall select the protection scheme from its supported schemes that has the highest priority in the list obtained from the USIM.

The ME shall calculate the SUCI using the null-scheme if one or more parameters (i.e. Home Network Public Key, Protection Scheme Identifier) required for the calculation of the SUCI are not provisioned in the USIM.

5.3.7.2 Conformance requirement

- 1) SUCI calculation procedure shall be performed by the ME if Service $n^{\circ}124$ is "available" and Service $n^{\circ}125$ is not "available" in EF_{UST}
- 2) As part of the SUCI calculation performed by the ME, the ME shall perform reading procedure on $EF_{SUCI_Calc_Info}$ and $EF_{Routing_Indicator}$.
- 3) The ME shall calculate the SUCI using the null-scheme if no Protection Scheme Identifier is provisioned in the USIM or if there is no Home Network Public Key configured in the USIM for the highest priority protection scheme configured in the USIM that the ME supports.

Reference:

- 3GPP TS 31.102 [4], subclauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- 3GPP TS 33.501 [41], subclause Annex C;
- 3GPP TS 24.501 [42], subclause 5.5.1.2.2.

5.3.7.3 Test purpose

- 1) To verify that the READ EF_{UST} , EF_{IMSI} , $EF_{SUCI_Calc_Info}$ and $EF_{Routing_Indicator}$ commands are performed correctly by the ME.
- 2) To verify that the ME performs SUCI calculation procedure using null-scheme.

5.3.7.4 Method of test

5.3.7.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The default 5G-NR UICC is used with the following exceptions:

- 1) The USIM does not have any Protection Scheme Identifiers configured, or
- 2) The USIM does not have the Home Network Public Key configured for the highest priority protection scheme configured in the USIM that the ME supports.

The UICC is installed into the ME.

5.3.7.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends *REGISTRATION REQUEST* to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) Upon reception of *REGISTRATION ACCEPT* message with a 5G-GUTI, the UE sends *REGISTRATION COMPLETE* message to the NG-SS.

5.3.7.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI} , EF_{UST} , $EF_{SUCI_Calc_Info}$ and $EF_{Routing_Indicator}$
- 2) After step b) the UE shall include the SUCI as coded below in the 5GS mobile identity IE in the *REGISTRATION REQUEST*.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17
Protection scheme id: 00
Home network public key Id: 0
Scheme output: 357935793

5.3.8 UE identification by 5G-GUTI – Last Registered TAI stored on USIM

5.3.8.1 Definition and applicability

A globally unique temporary user identity for 5GS-based services, the 5G globally unique temporary identity (5G-GUTI), is used for identification within the signalling procedures. A UE supporting N1 mode includes a valid 5G-GUTI, if any is available, in the REGISTRATION REQUEST and DEREGISTRATION REQUEST messages.

5.3.8.2 Conformance requirement

The following 5GMM parameters shall be stored on the USIM if the corresponding file is present:

- a) 5G-GUTI;
- b) last visited registered TAI; and
- c) 5GS update status.

The presence and format of corresponding files on the USIM is specified in 3GPP TS 31.102 [4].

If the corresponding file is not present on the USIM, these 5GMM parameters are stored in a non-volatile memory in the ME together with the SUPI from the USIM. These 5GMM parameters can only be used if the SUPI from the USIM matches the SUPI stored in the non-volatile memory; else the UE shall delete the 5GMM parameters.

Reference:

- TS 31.102 [4], clause 4.4.11.2;
- TS 24.501 [42], clauses 5.3.3, 5.5.1.2 and Annex C.

5.3.8.3 Test purpose

- 1) To verify that the READ EF_{IMSI} and EF_{5GS3GPPLOCI} commands are performed correctly by the ME.
- 2) To verify that the ME uses 5G-GUTI in the Registration Request.

5.3.8.4 Method of test

5.3.8.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

EF5GS3GPPLOCI (5GS 3GPP location information)

Logically:

5G-GUTI:244083 00010266436587

TAI: 244 083 000001

5GS update status: 5U2 NOT UPDATED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	00	0B	F2	42	34	80	00	01
	B9	B10	B11	B12	B13	B14	B15	B16
	02	66	43	65	87	42	34	80
	B17	B18	B19	B20				
	00	00	01	01				

The UICC is installed into the Terminal.

5.3.8.4.2 Procedure

- a) Bring up the NG-SS and the UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS, indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- c) Upon reception of REGISTRATION ACCEPT message with a 5G-GUTI the UE sends REGISTRATION COMPLETE message to the NG-SS.

5.3.8.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI} and $EF_{\text{5GS3GPPLOCI}}.$
- 2) In step b) the UE shall use 5G-GUTI and Last visited TAI in the REGISTRATION REQUEST:

5G-GUTI:244 083 00010266436587

TAI: 244 083 000001

5.3.9 UE identification by 5G-GUTI – Last Registered TAI stored by ME

5.3.9.1 Definition and applicability

A globally unique temporary user identity for 5GS-based services, the 5G globally unique temporary identity (5G-GUTI), is used for identification within the signalling procedures. A UE supporting N1 mode includes a valid 5G-GUTI, if any is available, in the REGISTRATION REQUEST and DEREGISTRATION REQUEST messages.

5.3.9.2 Conformance requirement

The following 5GMM parameters shall be stored on the USIM if the corresponding file is present:

- a) 5G-GUTI;
- b) last visited registered TAI; and
- c) 5GS update status.

The presence and format of corresponding files on the USIM is specified in 3GPP TS 31.102 [4].

If the corresponding file is not present on the USIM, these 5GMM parameters are stored in a non-volatile memory in the ME together with the SUPI from the USIM. These 5GMM parameters can only be used if the SUPI from the USIM matches the SUPI stored in the non-volatile memory; else the UE shall delete the 5GMM parameters.

Reference:

- TS 24.501 [42], clauses 5.3.3, 5.5.1.2 and Annex C.

5.3.9.3 Test purpose

- 1) To verify that the READ EF_{IMSI} command is performed correctly by the ME.
- 2) To verify that the ME uses 5G-GUTI in the Registration Request.
- 3) To verify that the ME stores the new 5G-GUTI in its non-volatile memory if the corresponding file is not present in the USIM.

5.3.9.4 Method of test

5.3.9.4.1 Initial conditions

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

Cell A -TAI (MCC/MNC/TAC): 244/083/000001.

Access control: unrestricted.

Cell B -TAI (MCC/MNC/TAC): 244/084/000001.

Access control: unrestricted.

The default E-UTRAN UICC is used and installed into the Terminal.

5.3.9.4.2 Procedure

- a) Bring up the Cell A and the UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS, indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) The NG-SS sends a REGISTRATION ACCEPT message with the following parameters:

5G-GUTI:244083 00010266436587

TAI: 244 083 000001

- d) The UE sends REGISTRATION COMPLETE message to the NG-SS.
- e) The UE is switched off.
- f) The UE is switched on.
- g) The UE sends REGISTRATION REQUEST to the NG-SS, indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.
- h) The NG-SS sends REGISTRATION ACCEPT message with the following parameters:

5G-GUTI:244 083 00010266434444

TAI: 244 083 000001

- i) The UE sends REGISTRATION COMPLETE message to the NG-SS.
- j) Turn cell A off, then turn cell B on.
- k) The UE sends REGISTRATION REQUEST to the NG-SS, indicates the 5GS registration type IE as "mobility registration updating" and 5GS mobile identity information element type "5G-GUTI", then the UE starts timer T3510.

5.3.9.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI}.
- 2) In step g) the UE shall use in the REGISTRATION REQUEST the following parameters:

5G-GUTI:244083 00010266436587

Last visited registered TAI: 244 083 000001

3) In step k) the UE shall use in the REGISTRATION REQUEST with the following parameters:

5G-GUTI:244 083 00010266434444

Last visited registered TAI: 244 083 000001

5.3.10 UE identification after SUPI is changed

5.3.10.1 Definition and applicability

A globally unique temporary user identity for 5GS-based services, the 5G globally unique temporary identity (5G-GUTI), is used for identification within the signalling procedures. A UE supporting N1 mode includes a valid 5G-GUTI, if any is available, in the REGISTRATION REQUEST and DEREGISTRATION REQUEST messages.

5.3.10.2 Conformance requirement

The following 5GMM parameters shall be stored on the USIM if the corresponding file is present:

- a) 5G-GUTI;
- b) last visited registered TAI;
- c) 5GS update status; and
- d) 5G NAS security context parameters from a full native 5G NAS security context.

The presence and format of corresponding files on the USIM is specified in 3GPP TS 31.102 [4].

If the corresponding file is not present on the USIM, these 5GMM parameters are stored in a non-volatile memory in the ME together with the SUPI from the USIM. These 5GMM parameters can only be used if the SUPI from the USIM matches the SUPI stored in the non-volatile memory; else the UE shall delete the 5GMM parameters.

Reference:

- TS 24.501 [42], clauses 5.3.3, 5.5.1.2 and Annex C.

5.3.10.3 Test purpose

- 1) To verify that the READ EF_{IMSI} command is performed correctly by the ME.
- 2) To verify that the ME deletes the 5GMM parameters from non-volatile memory in case SUPI is changed.

5.3.10.4 Method of test

5.3.10.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The default E-UTRAN UICC is used and installed into the Terminal.

5.3.10.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends *REGISTRATION REQUEST* to the NG-SS indicates the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) The NG-SS sends a REGISTRATION ACCEPT message with the following parameters:

5G-GUTI:24408300010266436587

TAI: 244 083 000001

- d) The UE sends a REGISTRATION COMPLETE message to the NG-SS.
- e) The UE is switched off, change the UICC configuration by setting the IMSI to (24681685533963)
- f) The UE is switched on.
- g) The UE sends REGISTRATION REQUEST to the NG-SS.

5.3.10.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI}
- 2) In step g) the UE shall not use the 5G-GUTI or the Last visited registered TAI parameters in the REGISTRATION REQUEST message, instead it shall use SUCI as 5GS mobile identity IE.

5.3.11 SUCI calculation by ME using Profile A

5.3.11.1 Definition and applicability

If the operator's decision is that the ME shall calculate the SUCI, the Home Network Operator shall provision a list of the Protection Scheme Identifiers that the operator allows in the USIM. The list of Protection Scheme Identifiers in the USIM may contain one or more Protection Scheme Identifiers in order of their priority. The ME shall read the SUCI calculation information from the USIM, including the SUPI, the Home Network Public Key, the Home Network Public

Key Identifier, and the list of Protection Scheme Identifiers. The ME shall select the protection scheme from its supported schemes that has the highest priority in the list obtained from the USIM.

5.3.11.2 Conformance requirement

- 1) SUCI calculation procedure shall be performed by the ME if Service $n^{\circ}124$ is "available" and Service $n^{\circ}125$ is not "available" in EF_{UST}.
- 2) As part of the SUCI calculation performed by the ME, the ME performs the reading procedure with $EF_{SUCI\ Calc\ Info}$.
- 3) The ME shall calculate the SUCI using the highest priority supported protection scheme and the Home Network Public Key stored on the USIM.

Reference:

- 3GPP TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;
- 3GPP TS 33.501 [41], clause Annex C;
- 3GPP TS 24.501 [42], clause 5.5.1.2, 5.5.1.2.4.

5.3.11.3 Test purpose

- 1) To verify that the READ $EF_{Routing_Indicator}$, $EF_{SUCI_Calc_Info}$ and EF_{IMSI} commands are performed correctly by the ME
- 2) To verify that the terminal performs SUCI calculation procedure using the profile with the highest priority (i.e. ECIES scheme profile A and the Home Network Public Key).

5.3.11.4 Method of test

5.3.11.4.1 Initial conditions

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

- TAI (MCC/MNC/TAC):244/083/000001.
- Access control: unrestricted.

The 5G-NR UICC is configured with the following parameters in the order of priority and installed into the ME.

EF_{SUCI_Calc_Info} (Subscription Concealed Identifier Calculation Information EF)

Logically: Protection Scheme Identifier List data object

Protection Scheme Identifier 2 – ECIES scheme profile A

Key Index 1: 1

Protection Scheme Identifier 3 – ECIES scheme profile B

Key Index 2: 2

Protection Scheme Identifier 1 – null-scheme

Key Index 3: 0

Home Network Public Key List data object

Home Network Public Key 1 Identifier: 30

Home Network Public Key 1: 5A 8D 38 86 48 20 19 7C 33 94 B9 26 13 B2 0B

91 63 3C BD 89 71 19 27 3B F8 E4 A6 F4 EE C0

A6 50

Home Network Public Key 2 Identifier: 27

Home Network Public Key 2: 02 72 DA 71 97 62 34 CE 83 3A 69 07 42 58 67

B8 2E 07 4D 44 EF 90 7D FB 4B 3E 21 C1 C2 25

6E BC D1

The NG-SS shall be configured with Home Network Private Key as following (for Profile A):

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	C5	3C	22	20	8B	61	86	0B
	B9	B10	B11	B12	B13	B14	B15	B16
	06	C6	2E	54	06	A7	B3	30
	B17	B18	B19	B20	B21	B22	B23	B24
	C2	B5	77	AA	55	58	98	15
	B25	B26	B27	B28	B29	B30	B31	B32
	10	D1	28	24	7D	38	BD	1D

5.3.11.4.2 Procedure

- a) The UE is switched on.
- b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".
- c) Upon reception of REGISTRATION ACCEPT message with a 5G-GUTI, the UE sends REGISTRATION COMPLETE message to the NG-SS.

5.3.11.5 Acceptance criteria

- 1) After step a) the ME shall read EF_{IMSI}, EF_{UST}, EF_{Routing_Indicator} and EF_{SUCI_Calc_Info}.
- 2) After step b) the UE shall include the SUCI (coded below) in the 5GS mobile identity IE in the REGISTRATION REQUEST.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17

Protection scheme id: 01

Home network public key Id: 30

Scheme output: ECC ephemeral public key, encryption of 357935793 and MAC tag value

5.4 Unified Access Control information handling for 5G-NR

5.4.1 Unified Access Control – Access identity 0, no access identities indicated by USIM

5.4.1.1 Definition and applicability

The purpose of Unified Access Control procedure is to perform access barring check for a 5GS access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers or the RRC layer.

The 5G network shall be able to broadcast barring control information (i.e. a list of barring parameters associated with an Access Identity and an Access Category) in SIB1.

If no Access Identies are configured in EF_{UAC_AIC} and in EF_{ACC} , Access Identity 0 is applicable. The UE shall read EF_{UAC_AIC} and EF_{ACC} as part of USIM Initialization procedure.

The UE shall be able to determine whether or not a particular new access attempt is allowed based on barring parameters that the UE receives from the broadcast barring control information and the configuration in the USIM.

When the NAS detects an access event, the NAS shall perform the mapping of the kind of request to one or more access identities and one access category and lower layers will perform access barring checks for that request based on the determined access identities and access category.

If RRC state is RRC_INACTIVE and the resumption of the RRC connection is triggered due to an RNA Update, RRC layer shall select Access Category as 8 and perform unified access control procedure in case there is no ongoing emergency service.

5.4.1.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialization procedure, and subsequently adopt this value.

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.1.2.
- 2. Access Identities are configured at the UE as listed in TS 22.261 [43] Table 6.22.2.2-1. Access Categories are defined by the combination of conditions related to UE and the type of access attempt as listed in TS 22.261 [43] Table 6.22.2.3-1. One or more Access Identities and only one Access Category are selected and tested for an access attempt.

Reference:

- 3GPP TS 22.261 [43], subclause 6.22.2.
- 3. The UE shall be able to determine whether or not a particular new access attempt is allowed based on uac-BarringInfo broadcast in SIB1. Access Control check shall be performed as per the information received in uac-BarringInfoSetList.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.14.
- 4. If the resumption of the RRC connection is triggered due to an RNA update and there is no ongoing emergency service RRC shall select '8' as the Access Category and perform the unified access control procedure.

Reference:

- 3GPP 38.331 [44], subclauses 5.3.13.2.

5.4.1.3 Test purpose

- 1) To verify that the Terminal reads the access control value from $EF_{UAC-AIC}$ and EF_{ACC} as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify UE maps the kind of request to one or more access identities and one access category and lower layers performs access barring checks for that request based on the determined access identities and access category.
- 3) To verify UE performs unified access control procedure if RNA Update procedure is triggered.

5.4.1.4 Method of test

5.4.1.4.1 Initial conditions

EFUAC_AIC and EFACC

No Access Identities configured in EF_{UAC_AIC} and no Access Classes configured in EF_{ACC} as also shown in table 5.4.1-1 and 5.4.1-2.

EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	B 3	B 4	B5	B6	B7	B8	B9
Hex	08	29	64	80	31	75	39	75	39

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support not available

SUCI calculation by USIM not available

UAC Access Identities support

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11		B16			
	XXXX XXXX	XXXX XXXX	xx11 xxxx		xx10 011x			

NETWORK (NG-SS)

Cell A:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see tables 5.4.1-1, TAC="000001".
- CellIdentity: "000000001"

If present in the REGISTRATION ACCEPT, the 5GS network feature support IE indicates Access identity 1 as not valid and Access identity 2 as not valid.

For Table 5.4.1-1:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

For Table 5.4.1-2:

No uac-BarringInfo in SIB1.

Cell B:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see table 5.4.1-2, TAC="000002".
- CellIdentity: "000000002"

If present in the REGISTRATION ACCEPT, the 5GS network feature support IE indicates Access identity 1 as not valid and Access identity 2 as not valid.

For Table 5.4.1-2:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

5.4.1.4.2 Procedure

Steps for the Table 5.4.1-1

- a) NG-SS activates Cell A and terminal is switched on and performs Registration if access is allowed according to the table.
- b) Using the MMI or EMMI a MO Data call is attempted if required by the test.
- c) The test is repeated for each set of values in the table.

Steps for the Table 5.4.1-2

- a) NG-SS activates Cell A and terminal is switched on and performs successful Registration.
- b) Using the MMI or EMMI set up a successful MO Data call.
- c) NG-SS sends RRCRelease with suspendConfig in criticalExtensions (with the choice rrcRelease).
 - ran-NotificationAreaInfo in suspendConfig contains the cellList with cellIdentity of Cell A

- a) Deactivate Cell A and activate Cell B with *uac-BarringInfo* in SIB1 set as in the table:
 - Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.
- b) UE attempts to initiate RRCResumeRequest procedure with resumeCause set to rna-Update.
- c) The test is repeated for each set of values in the table.

5.4.1.4.3 Acceptance criteria

For the Table 5.4.1-1

- After step a) the UE shall make a successful or not sucessful Registration to the network in accordance with the result indicated in the table.
- After step b) the UE shall make a successful or not successful MO Data call in accordance with the result indicated in the table if the step is applicable.

For the Table 5.4.1-2

- After step e) the UE shall make a successful or not successful RRC Resumption for RNA Update in accordance with the result indicated in the table.

Table 5.4.1-1

TC Seq	Access	USIM		SIB1	REGISTI ACC (5GS netwo suppo			
#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicato r Bit	Regis n succ
		0x00 00 00						
1.1	7	00	00000	Not Present	246 / 081	0	0	<u>\</u>
		0x00 00 00						
1.2	3	00	00000	UAC_BarringInfo_Common(3,0x0000000'B)	246 / 081	0	0	
		0x00 00 00		UAC_BarringInfo_PerPLMN(3,0x00000000'B				
1.3	3	00	00000)	246 / 081	0	0	

		0x00 00 00		UAC_BarringInfo_PerPLMN(3,0x1000000'B				
1.4	3	00	00000)	246 / 081	0	0	
		0x00 00 00						
1.5	7	00	00000	UAC_BarringInfo_Common(7,0x00000000'B)	246 / 081	0	0	١
		0x00 00 00		UAC_BarringInfo_PerPLMN(7,0x00000000'B				
1.6	7	00	00000)	246 / 081	0	0	١
		0x00 00 00		UAC_BarringInfo_Common2 (
1.7	3	00	00000	7,0x1000000'B, 3,0x0000000'B)	244 / 081	0	0	1

Table 5.4.1-2

TC	Access	egory		SIB1	REGISTI ACC (5GS netwo			
Seq#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicator Bit	RRC re rna
		0x00 00 00						
2.1	8	00	00000	Not Present	246 / 081	0	0	
		0x00 00 00						
2.2	8	00	00000	UAC_BarringInfo_Common(8,0x0000000'B)	246 / 081	0	0	
		0x00 00 00						
2.3	8	00	00000	UAC_BarringInfo_PerPLMN(8,0x00000000'B)	246 / 081	0	0	
		0x00 00 00		UAC_BarringInfo_Common2 (
2.4	8	00	00000	7,0x1000000'B, 8,0x0000000'B)	244 / 081	0	0	

5.4.2 Unified Access Control – Access Identity 1 – MPS indicated by USIM

5.4.2.1 Definition and applicability

The purpose of Unified Access Control procedure is to perform access barring check for a 5GS access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers or the RRC layer.

The 5G network shall be able to broadcast barring control information (i.e. a list of barring parameters associated with an Access Identity and an Access Category) in SIB1.

The EF_{UAC-AIC} in the USIM contains the configuration information pertaining to access identity 1 allocated for high priority services MPS.

The UE shall be able to determine whether or not a particular new access attempt is allowed based on barring parameters that the UE receives from the broadcast barring control information and the configuration in the USIM.

When the NAS detects an access event, the NAS shall perform the mapping of the kind of request to one or more access identities and one access category and lower layers will perform access barring checks for that request based on the determined access identities and access category.

If RRC state is RRC_INACTIVE and the resumption of the RRC connection is triggered due to an RNA Update RRC layer shall select Access Category as 8 and perform unified access control procedure in case there is no ongoing emergency service.

5.4.2.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialization procedure, and subsequently adopt this value.

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.1.2.
- 2. Access Identities are configured at the UE as listed in TS 22.261 [43] Table 6.22.2.2-1. Access Categories are defined by the combination of conditions related to UE and the type of access attempt as listed in TS 22.261 [43] Table 6.22.2.3-1. One or more Access Identities and only one Access Category are selected and tested for an access attempt.

Reference:

- 3GPP TS 22.261 [43], subclause 6.22.2
- 3. Access Identity 1 is valid if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.

Reference:

- 3GPP TS 24.501 [43], subclause 4.5.2
- 4. The UE shall be able to determine whether or not a particular new access attempt is allowed based on uac-BarringInfo broadcast in SIB1. Access Control check shall be performed as per the information received in uac-BarringInfoSetList.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.14
- 5. If the resumption of the RRC connection is triggered due to an RNA update and there is no ongoing emergency service RRC shall select '8' as the Access Category and perform the unified access control procedure.

Reference:

3GPP TS 38.331 [44], subclauses 5.3.13.2

5.4.2.3 Test purpose

- 1) To verify that the Terminal reads the access control value from $EF_{UAC-AIC}$ and EF_{ACC} as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify UE maps the kind of request to one or more access identities and one access category and lower layers performs access barring checks for that request based on the determined access identities and access category.
- 3) To verify the UE determines whether or not a particular access attempt is allowed based on uac-BarringInfo broadcast in SIB1 and if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.
- 4) To verify UE performs unified access control procedure if RNA Update procedure is triggered.

5.4.2.4 Method of test

5.4.2.4.1 Initial conditions

EF_{UAC_AIC} and **EF**_{ACC}

Access Identitity 1 (and in some test cases additional Access Identities) in EF_{UAC_AIC} is configured and no Access Classes are configured in EF_{ACC} as given in tables 5.4.2-1 and 5.4.2-2.

EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	80	29	64	80	31	75	39	75	39

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support not available

SUCI calculation by USIM not available

UAC Access Identities support

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11		B16			
	XXXX XXXX	XXXX XXXX	xx11 xxxx		xx10 011x			

179

NETWORK (NG-SS)

Cell A:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see tables 5.4.2-1, TAC="000001".
- CellIdentity: "000000001"

For Table 5.4.2-1:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

For Table 5.4.2-2:

No uac-BarringInfo in SIB1.

Cell B:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see table 5.4.2-2, TAC="000002".
- CellIdentity: "000000002"

For Table 5.4.2-2:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

5.4.2.4.2 Procedure

Steps for the Table 5.4.2-1

- a) NG-SS activates Cell A and terminal is switched on and performs Registration if access is allowed according to the table.
- b) Using the MMI or EMMI a MO Data call is attempted if required by the test.
- c) The test is repeated for each set of values in the table.

Steps for the Table 5.4.2-2

NG-SS activates Cell A and terminal is switched on and performs successful Registration.

Using the MMI or EMMI set up a successful MO Data call.

NG-SS sends RRCRelease with suspendConfig in criticalExtensions (with the choice rrcRelease).

- ran-NotificationAreaInfo in suspendConfig contains the cellList with cellIdentity of Cell A

```
cellList {
    plmn-Identity {mcc, mnc}, -- see table 5.4.2-2 for mcc/mnc ran-AreaCells 000000001'B
```

- d) Deactivate Cell A and activate Cell B with uac-BarringInfo in SIB1 set as in the table:
 - Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.
- e) UE attempts to initiate RRCResumeRequest procedure with resumeCause set to rna-Update.
- f) The test is repeated for each set of values in the table.

5.4.2.4.3 Acceptance criteria

For the Table 5.4.2-1

- After step a) the UE shall make a successful or not successful Registration to the network in accordance with the result indicated in the table.
- After step b) the UE shall make a successful or not successful MO Data call in accordance with the result indicated in the table if the step is applicable.

For the Table 5.4.2-2

- After step e) the UE shall make a successful or not sucessful RRC Resumption for RNA Update in accordance with the result indicated in the table.

Table 5.4.2-1

TC	TC Access Seq# Category	USIM		SIB1	REGIST ACC (5GS netwo			
Seq#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicator Bit	Regi: succ
1.1	7	0x01 00 00 00	00000	Not Present	246 / 081	0	0	 ,
1.2	3	0x01 00 00 00	00000	UAC_BarringInfo_Common(3,0x1000000'B)	246 / 081	0	0	
1.3	3	0x01 00 00 00	00000	UAC_BarringInfo_PerPLMN(3,0x1000000'B)	246 / 081	0	0	
1.4	3	0x01 00 00 00	00000	UAC_BarringInfo_Common(3,0x1000000'B)	246 / 082	0	0	
1.5	3	0x01 00 00 00	00000	UAC_BarringInfo_Common(3,0x0100000'B)	246 / 081	0	0	١
1.6	3	0x03 00 00 00	00000	UAC_BarringInfo_Common(3,0x0100000'B)	246 / 081	0	0)
1.7	7	0x01 00 00 00	00000	UAC_BarringInfo_Common(7,0x00000000'B)	246 / 081	0	0	`
1.8	3	0x01 00 00 00	00000	UAC_BarringInfo_Common(3,0x00000000'B)	244 / 081	0	0	
1.9	7	0x01 00 00 00	00000	UAC_BarringInfo_Common(7,0x1000000'B)	246 / 081	0	0)

		0x01 00 00						
1.10	7	00	00000	UAC_BarringInfo_PerPLMN(7,0x1000000'B)	246 / 081	0	0)
		0x01 00 00						
1.11	7	00	00000	UAC_BarringInfo_Common(7,0x1000000'B)	246 / 082	0	0	١
		0x01 00 00						
1.12	7	00	00000	UAC_BarringInfo_Common(7,0x00000000'B)	244 / 081	0	0)
		0x01 00 00						
1.13	7	00	00000	UAC_BarringInfo_Common(7,0x01000000'B)	244 / 081	1	0	١
		0x02 00 00						
1.14	7	00	00000	UAC_BarringInfo_Common(7,0x01000000'B)	244 / 081	1	0	\
		0x01 00 00		UAC_BarringInfo_Common2 (
1.15	7	00	00000	3,0x0100000'B, 7,0x1000000'B)	246 / 081	0	0	١
		0x01 00 00		UAC_BarringInfo_Common2 (
1.16	3	00	00000	7,0x1000000'B, 3,0x0000000'B)	244 / 081	0	0	

Table 5.4.2-2

TC Access Seq# Category	USIM		SIB1	REGIST ACC (5GS netw supp				
			(Byte 1	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicator Bit	RRCI with
		0x01 00 00						
2.1	8	00	00000	Not Present	246 / 081	0	0	
		0x01 00 00						
2.2	8	00	00000	UAC_BarringInfo_Common(8,0x1000000'B)	246 / 081	0	0	
		0x01 00 00						
2.3	8	00	00000	UAC_BarringInfo_PerPLMN(8,0x0000000'B)	246 / 081	0	0	
		0x01 00 00						
2.4	8	00	00000	UAC_BarringInfo_Common(8,0x1000000'B)	244 / 081	1	0	
		0x01 00 00		UAC_BarringInfo_Common2 (
2.5	8	00	00000	7,0x1000000'B, 8,0x0000000'B)	244 / 081	0	0	

5.4.3 FFS

5.4.4 FFS

5.4.5 Unified Access Control – Access Identity 2 – MCS indicated by USIM

5.4.5.1 Definition and applicability

The purpose of Unified Access Control procedure is to perform access barring check for a 5GS access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers or the RRC layer.

The 5G network shall be able to broadcast barring control information (i.e. a list of barring parameters associated with an Access Identity and an Access Category) in SIB1.

The $EF_{UAC\text{-}AIC}$ in the USIM contains the configuration information pertaining to access identity 2 allocated for high priority services MCS.

The UE shall be able to determine whether or not a particular new access attempt is allowed based on barring parameters that the UE receives from the broadcast barring control information and the configuration in the USIM.

When the NAS detects an access event, the NAS shall perform the mapping of the kind of request to one or more access identities and one access category and lower layers will perform access barring checks for that request based on the determined access identities and access category.

If RRC state is RRC_INACTIVE and the resumption of the RRC connection is triggered due to an RNA Update RRC layer shall select Access Category as 8 and perform unified access control procedure in case there is no ongoing emergency service.

5.4.5.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialization procedure, and subsequently adopt this value.

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.1.2.
- 2. Access Identities are configured at the UE as listed in 3GPP TS 22.261 [43] Table 6.22.2.2-1. Access Categories are defined by the combination of conditions related to UE and the type of access attempt as listed in 3GPP TS 22.261 [43] Table 6.22.2.3-1. One or more Access Identities and only one Access Category are selected and tested for an access attempt.

Reference:

- 3GPP TS 22.261 [43], subclause 6.22.2
- 3. Access Identity 2 is valid if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.

Reference:

- 3GPP TS 24.501 [43], subclause 4.5.2
- 4. The UE shall be able to determine whether or not a particular new access attempt is allowed based on uac-BarringInfo broadcast in SIB1. Access Control check shall be performed as per the information received in uac-BarringInfoSetList.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.14
- 5. If the resumption of the RRC connection is triggered due to an RNA update and there is no ongoing emergency service RRC shall select '8' as the Access Category and perform the unified access control procedure.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.13.2

5.4.5.3 Test purpose

- 1) To verify that the Terminal reads the access control value from $EF_{UAC-AIC}$ and EF_{ACC} as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify UE maps the kind of request to one or more access identities and one access category and lower layers performs access barring checks for that request based on the determined access identities and access category.
- 3) To verify the UE determines whether or not a particular access attempt is allowed based on uac-BarringInfo broadcast in SIB1 and if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.
- 4) To verify UE performs unified access control procedure if RNA Update procedure is triggered.

5.4.5.4 Method of test

5.4.5.4.1 Initial conditions

EFUAC_AIC and EFACC

Access Identity 2 (and in some test cases additional Access Identities) in EF_{UAC_AIC} is configured and no Access Classes are configured in EF_{ACC} as given in tables 5.4.5-1 and 5.4.5-2.

EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	B 3	B 4	B5	B6	B7	B8	B9
Hex	08	29	64	80	31	75	39	75	39

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support not available

SUCI calculation by USIM not available

UAC Access Identities support

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
_	B9	B10	B11		B16			

NETWORK (NG-SS)

Cell A:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see tables 5.4.5-x, TAC="000001".
- CellIdentity: "000000001"

For Table 5.4.5-1:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

For Table 5.4.5-2:

No uac-BarringInfo in SIB1.

Cell B:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see table 5.4.5-2, TAC="000002".

- CellIdentity: "000000002"

For Table 5.4.5-2:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

5.4.5.4.2 Procedure

Steps for the Table 5.4.5-1

- a) NG-SS activates Cell A and terminal is switched on and performs Registration if access is allowed according to the table.
- b) Using the MMI or EMMI a MO Data call is attempted if required by the test.
- c) The test is repeated for each set of values in the table.

Steps for the Table 5.4.5-2

- a) NG-SS activates Cell A and terminal is switched on and performs successful Registration.
- b) Using the MMI or EMMI set up a successful MO Data call.
- c) NG-SS sends RRCRelease with suspendConfig in criticalExtensions (with the choice rrcRelease).
 - ran-NotificationAreaInfo in suspendConfig contains the cellList with cellIdentity of Cell A

```
cellList {
    plmn-Identity {mcc, mnc}, -- see table 5.4.5-2 for mcc/mnc ran-AreaCells 000000001'B
```

- d) Deactivate Cell A and activate Cell B with uac-BarringInfo in SIB1 set as in the table:
 - Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.
- e) UE attempts to initiate RRCResumeRequest procedure with resumeCause set to rna-Update.
- f) The test is repeated for each set of values in the table.

5.4.5.4.3 Acceptance criteria

For the Table 5.4.5-1

- After step a) the UE shall make a successful or not successful Registration to the network in accordance with the result indicated in the table.
- After step b) the UE shall make a successful or not successful MO Data call in accordance with the result indicated in the table if the step is applicable.

For the Table 5.4.5-2

- After step e) the UE shall make a successful or not successful RRC Resumption for RNA Update in accordance with the result indicated in the table.

Table 5.4.5-1

TC Access Seq# Category	USIN	1	SIB1	SIB1			Result		
Seq#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicator Bit	Registration successful?	

1.1	7	0x02 00 00 00	00000	Not Present	246 / 081	0	0	Yes	١
1.2	3	0x02 00 00 00	00000	UAC_BarringInfo_Common(3,0x0100000'B)	246 / 081	0	0	No	ı
1.3	3	0x02 00 00 00	00000	UAC_BarringInfo_PerPLMN(3,0x0100000'B)	246 / 081	0	0	No	I
1.4	3	0x02 00 00 00	00000	UAC_BarringInfo_Common(3,0x0100000'B)	246 / 082	0	0	No	I
1.5	3	0x02 00 00 00	00000	UAC_BarringInfo_Common(3,0x1000000'B)	246 / 081	0	0	Yes	١
1.6	3	0x03 00 00 00	00000	UAC_BarringInfo_Common(3,0x1000000'B)	246 / 081	0	0	Yes)
1.7	7	0x02 00 00 00	00000	UAC_BarringInfo_Common(7,0x0000000'B)	246 / 081	0	0	Yes)
1.8	3	0x02 00 00 00	00000	UAC_BarringInfo_Common(3,0x0000000'B)	244 / 081	0	0	No	I
1.9	7	0x02 00 00 00	00000	UAC_BarringInfo_Common(7,0x0100000'B)	246 / 081	0	0	Yes	
1.10	7	0x02 00 00 00	00000	UAC_BarringInfo_PerPLMN(7,0x0100000'B)	246 / 081	0	0	Yes	
1.11	7	0x02 00 00 00	00000	UAC_BarringInfo_Common(7,0x0100000'B)	246 / 082	0	0	Yes	
1.12	7	0x02 00 00 00	00000	UAC_BarringInfo_Common(7,0x0000000'B)	244 / 081	0	0	Yes	
1.13	7	0x02 00 00 00	00000	UAC_BarringInfo_Common(7,0x10000000'B)	244 / 081	0	1	Yes	١
1.14	7	0x01 00 00 00	00000	UAC_BarringInfo_Common(7,0x10000000'B)	244 / 081	0	1	Yes	١
1.15	7	0x02 00 00 00	00000	UAC_BarringInfo_Common2(3,0x1000000'B, 7,0x0100000'B)	246 / 081	0	0	Yes	
1.16	3	0x02 00 00 00	00000	UAC_BarringInfo_Common2(7,0x0100000'B, 3,0x0000000'B)	244 / 081	0	0	No	

Table 5.4.5-2

TC "	Seq# Category	USIM		SIB1	ACC	etwork	Result	
Seq#		EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	uac-BarringInfo	PLMN- Identity (MCC/MNC)	MPS indicator Bit	MCS indicator Bit	RRCResumeReque with resumeCause so rna-Update success
2.1	8	0x02 00 00 00	00000	Not Present	246 / 081	0	0	Yes
2.2	8	0x02 00 00 00	00000	UAC_BarringInfo_Common(8,0x0100000'B)	246 / 081	0	0	No
2.3	8	0x02 00 00 00	00000	UAC_BarringInfo_PerPLMN(8,0x00000000'B)	246 / 081	0	0	Yes
2.4	8	0x02 00 00 00	00000	UAC_BarringInfo_Common(8,0x0100000'B)	244 / 081	0	1	No
2.5	8	0x02 00 00 00	00000	UAC_BarringInfo_Common2(7,0x0100000'B, 8,0x0000000'B)	244 / 081	0	0	No

5.4.6 FFS

5.4.7 FFS

5.4.8 Unified Access Control – Access Identities 11 and 15 indicated by USIM

5.4.8.1 Definition and applicability

The purpose of Unified Access Control procedure is to perform access barring check for a 5GS access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers or the RRC layer.

The 5G network shall be able to broadcast barring control information (i.e. a list of barring parameters associated with an Access Identity and an Access Category) in SIB1.

The EF_{ACC} in the USIM contains the configuration information pertaining to access identities 11 and 15.

The UE shall be able to determine whether or not a particular new access attempt is allowed based on barring parameters that the UE receives from the broadcast barring control information and the configuration in the USIM.

When the NAS detects an access event, the NAS shall perform the mapping of the kind of request to one or more access identities and one access category and lower layers will perform access barring checks for that request based on the determined access identities and access category.

If RRC state is RRC_INACTIVE and the resumption of the RRC connection is triggered due to an RNA Update RRC layer shall select Access Category as 8 and perform unified access control procedure in case there is no ongoing emergency service.

5.4.8.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialization procedure, and subsequently adopt this value.

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.1.2.
- 2. Access Identities are configured at the UE as listed in 3GPP TS 22.261 [43] Table 6.22.2.2-1. Access Categories are defined by the combination of conditions related to UE and the type of access attempt as listed in 3GPP TS 22.261 [43] Table 6.22.2.3-1. One or more Access Identities and only one Access Category are selected and tested for an access attempt.

Reference:

- 3GPP TS 22.261 [43], subclause 6.22.2.
- 3. Access Identity 11 and 15 are valid in HPLMN (if the EHPLMN list is not present or is empty) or EHPLMN (if the EHPLMN list is present).

Reference:

- 3GPP TS 24.501 [43], subclause 4.5.2.
- 4. The UE shall be able to determine whether or not a particular new access attempt is allowed based on uac-BarringInfo broadcast in SIB1. Access Control check shall be performed as per the information received in uac-BarringInfoSetList.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.14.

5. If the resumption of the RRC connection is triggered due to an RNA update and there is no ongoing emergency service RRC shall select '8' as the Access Category and perform the unified access control procedure.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.13.2.

5.4.8.3 Test purpose

- 1) To verify that the Terminal reads the access control value from $EF_{UAC-AIC}$ and EF_{ACC} as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify UE maps the kind of request to one or more access identities and one access category and lower layers performs access barring checks for that request based on the determined access identities and access category.
- 3) To verify the UE determines whether or not a particular access attempt is allowed based on uac-BarringInfo broadcast in SIB1 and if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.
- 4) To verify UE performs unified access control procedure if RNA Update procedure is triggered.

5.4.8.4 Method of test

5.4.8.4.1 Initial conditions

EFUAC_AIC and EFACC

Access Identities 11 and 15 are configured in EF_{ACC} and no Access Identities are configured in EF_{UAC_AIC} as given in tables 5.4.8-1 and 5.4.8-2.

EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	31	75	39	75	39

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available

Fixed dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available

5GS Mobility Management Information available

5G Security Parameters available

Subscription identifier privacy support not available

SUCI calculation by USIM not available

UAC Access Identities support

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11		B16			
	XXXX XXXX	XXXX XXXX	xx11 xxxx		xx10 011x			

NETWORK (NG-SS)

Cell A:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see tables 5.4.8-x, TAC="000001".
- CellIdentity: "000000001"

For Table 5.4.8-1:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

For Table 5.4.8-2:

No uac-BarringInfo in SIB1.

Cell B:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see table 5.4.8-2, TAC="000002".
- CellIdentity: "000000002"

For Table 5.4.8-2:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

5.4.8.4.2 Procedure

Steps for the Table 5.4.8-1

- a) NG-SS activates Cell A and terminal is switched on and performs Registration if access is allowed according to the table.
- b) Using the MMI or EMMI a MO Data call is attempted if required by the test.
- c) The test is repeated for each set of values in the table.

Steps for the Table 5.4.8-2

- a) NG-SS activates Cell A and terminal is switched on and performs successful Registration.
- b) Using the MMI or EMMI set up a successful MO Data call.
- c) NG-SS sends RRCRelease with suspendConfig in criticalExtensions (with the choice rrcRelease).
 - ran-NotificationAreaInfo in suspendConfig contains the cellList with cellIdentity of Cell A

```
cellList {
    plmn-Identity {mcc, mnc}, -- see table 5.4.8-2 for mcc/mnc ran-AreaCells 000000001'B
}
```

- d) Deactivate Cell A and activate Cell B with *uac-BarringInfo* in SIB1 set as in the table:
 - Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.
- e) UE attempts to initiate RRCResumeRequest procedure with resumeCause set to rna-Update.
- f) The test is repeated for each set of values in the table.

5.4.8.4.3 Acceptance criteria

For the Table 5.4.8-1

- After step a) the UE shall make a successful or not successful Registration to the network in accordance with the result indicated in the table.
- After step b) the UE shall make a successful or not successful MO Data call in accordance with the result indicated in the table if the step is applicable.

For the Table 5.4.8-2

- After step e) the UE shall make a successful or not successful RRC Resumption for RNA Update in accordance with the result indicated in the table.

Table 5.4.8-1

тс	Access	ι	JSIM		SIB1		Res	sult
Seq#	Category	EFUAC_AIC	EF _{ACC} (Byte 1 b8-b4)	Access Identies	uac-BarringInfo	PLMN- Identity (MCC/MNC)	Registration successful?	MO Data call successful?
1.1	7	0x00 00 00 00	00001	11	Not Present	246 / 081	Yes	Yes
1.2	3	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(3,0x0010000'B)	246 / 081	No	NA
1.3	3	0x00 00 00 00	00001	11	UAC_BarringInfo_PerPLMN(3,0x0010000'B)	246 / 081	No	NA
1.4	3	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(3,0x0000000'B)	246 / 082	No	NA
1.5	3	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(3,0x0001000'B)	246 / 081	Yes	Yes
1.6	3	0x00 00 00 00	10001	11, 15	UAC_BarringInfo_Common(3,0x0000001'B)	246 / 081	Yes	Yes
1.7	7	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(7,0x0010000'B)	246 / 081	Yes	No
1.8	7	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(7,0x00000000'B)	246 / 082	Yes	No
1.9	7	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(7,0x00000000'B)	244 / 081	Yes	No
1.10	7	0x00 00 00 00	00001	11	UAC_BarringInfo_Common2(3,0x0001000'B, 7,0x0010000'B)	246 / 081	Yes	No
1.11	3	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(3,0x0000001'B)	246 / 081	No	NA
1.12	3	0x00 00 00 00	10000	15	UAC_BarringInfo_PerPLMN(3,0x0000001'B)	246 / 081	No	NA
1.13	3	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(3,0x0000000'B)	246 / 082	No	NA
1.14	3	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(3,0x0010000'B)	246 / 081	Yes	Yes
1.15	7	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(7,0x0000001'B)	246 / 081	Yes	No
1.16	7	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(7,0x00000000'B)	246 / 082	Yes	No
1.17	7	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(7,0x00000000'B)	244 / 081	Yes	No
1.18	7	0x00 00 00 00	10000	15	UAC_BarringInfo_Common2(3,0x0001000'B, 7,0x0000001'B)	246 / 081	Yes	No

Table 5.4.8-2

TC Seq#	Access ategory USIM	SIB1	Result	
------------	------------------------	------	--------	--

		EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	Access identity	uac-BarringInfo	PLMN- Identity (MCC/MNC)	RRCResumeRequest with resumeCause set to rna-Update successful?
2.1	8	0x00 00 00 00	00001	11	Not Present	246 / 081	Yes
2.2	8	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(8,0x0010000'B)	246 / 081	No
2.3	8	0x00 00 00 00	00001	11	UAC_BarringInfo_PerPLMN(8,0x0000000'B)	246 / 081	Yes
2.4	8	0x00 00 00 00	00001	11	UAC_BarringInfo_Common(8,0x0000000'B)	246 / 082	No
2.5	8	0x00 00 00 00	00001	11	UAC_BarringInfo_Common2(7,0x0000001'B, 8,0x0000000'B)	244 / 081	No
2.6	8	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(8,0x0000001'B)	246 / 081	No
2.7	8	0x00 00 00 00	10000	15	UAC_BarringInfo_PerPLMN(8,0x0000000'B)	246 / 081	Yes
2.8	8	0x00 00 00 00	10000	15	UAC_BarringInfo_Common(8,0x0000000'B)	246 / 082	No
2.9	8	0x00 00 00 00	10000	15	UAC_BarringInfo_Common2(7,0x0000001'B, 8,0x0000000'B)	244 / 081	No

5.4.9 Unified Access Control – Access Identities 12, 13 and 14 indicated by USIM

5.4.9.1 Definition and applicability

The purpose of Unified Access Control procedure is to perform access barring check for a 5GS access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers or the RRC layer.

The 5G network shall be able to broadcast barring control information (i.e. a list of barring parameters associated with an Access Identity and an Access Category) in SIB1.

The EF_{ACC} in the USIM contains the configuration information pertaining to access identities 12, 13 and 14.

The UE shall be able to determine whether or not a particular new access attempt is allowed based on barring parameters that the UE receives from the broadcast barring control information and the configuration in the USIM.

When the NAS detects an access event, the NAS shall perform the mapping of the kind of request to one or more access identities and one access category and lower layers will perform access barring checks for that request based on the determined access identities and access category.

If RRC state is RRC_INACTIVE and the resumption of the RRC connection is triggered due to an RNA Update RRC layer shall select Access Category as 8 and perform unified access control procedure in case there is no ongoing emergency service.

5.4.9.2 Conformance requirement

1. The Terminal shall read the access control value as part of the USIM-Terminal initialization procedure, and subsequently adopt this value.

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.1.2.
- 2. Access Identities are configured at the UE as listed in 3GPP TS 22.261 [43] Table 6.22.2.2-1. Access Categories are defined by the combination of conditions related to UE and the type of access attempt as listed in 3GPP TS 22.261 [43] Table 6.22.2.3-1. One or more Access Identities and only one Access Category are selected and tested for an access attempt.

Reference:

- 3GPP TS 22.261 [43], subclause 6.22.2.
- 3. Access Identities 12, 13 and 14 are valid in HPLMN and visited PLMNs of home country only.

Reference:

- 3GPP TS 24.501 [43], subclause 4.5.2.
- 4. The UE shall be able to determine whether or not a particular new access attempt is allowed based on uac-BarringInfo broadcast in SIB1. Access Control check shall be performed as per the information received in uac-BarringInfoSetList.

Reference:

- 3GPP TS 38.331 [44], subclauses 5.3.14.
- 5. If the resumption of the RRC connection is triggered due to an RNA update and there is no ongoing emergency service RRC shall select '8' as the Access Category and perform the unified access control procedure.

Reference:

3GPP TS 38.331 [44], subclauses 5.3.13.2.

5.4.9.3 Test purpose

- 1) To verify that the Terminal reads the access control value from EF_{UAC-AIC} and EF_{ACC} as part of the USIM-Terminal initialisation procedure, and subsequently adopts this value.
- 2) To verify UE maps the kind of request to one or more access identities and one access category and lower layers performs access barring checks for that request based on the determined access identities and access category.
- 3) To verify the UE determines whether or not a particular access attempt is allowed based on uac-BarringInfo broadcast in SIB1 and if the RPLMN is the HPLMN, EHPLMN or visited PLMN of the home country.
- 4) To verify UE performs unified access control procedure if RNA Update procedure is triggered.

5.4.9.4 Method of test

5.4.9.4.1 Initial conditions

EFUAC_AIC and EFACC

Access Identities 12, 13 and 14 are configured in EF_{ACC} and no Access Identities are configured in EF_{UAC_AIC} as given in tables 5.4.9-1 and 5.4.9-2.

EF_{IMSI} (IMSI)

Logically: 246081357935793

Coding:	B1	B2	B 3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	31	75	39	75	39

EF_{UST} (USIM Service Table)

Logically:

User controlled PLMN selector available Fixed dialling numbers available The GSM Access available The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1' Enabled Services Table available

EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications available 5GS Mobility Management Information available 5G Security Parameters available Subscription identifier privacy support not available SUCI calculation by USIM not available UAC Access Identities support

Byte:	B1	B2	B3	B4	B5	B6	B7	B8
Binary:	xxxx xx1x	XXXX XXXX	xxxx 1x00	xxxx x1xx	xxxx xx11	XXXX XXXX	XXXX XXXX	XXXX XXXX
	B9	B10	B11		B16			
	XXXX XXXX	XXXX XXXX	xx11 xxxx		xx10 011x			

NETWORK (NG-SS)

Cell A:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see tables 5.4.9-x, TAC="000001".
- CellIdentity: "000000001"

For Table 5.4.9-1:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

For Table 5.4.9-2:

No uac-BarringInfo in SIB1.

Cell B:

Transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC):MCC, MNC: see table 5.4.9-2, TAC="000002".
- CellIdentity: "000000002"

For Table 5.4.9-2:

uac-BarringInfo in SIB1 should be set as in the table:

- Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.

5.4.9.4.2 Procedure

Steps for the Table 5.4.9-1

- a) NG-SS activates Cell A and terminal is switched on and performs Registration if access is allowed according to the table.
- b) Using the MMI or EMMI a MO Data call is attempted if required by the test.
- c) The test is repeated for each set of values in the table.

Steps for the Table 5.4.9-2

- a) NG-SS activates Cell A and terminal is switched on and performs successful Registration.
- b) Using the MMI or EMMI set up a successful MO Data call.
- c) NG-SS sends RRCRelease with suspendConfig in criticalExtensions (with the choice rrcRelease).
 - ran-NotificationAreaInfo in suspendConfig contains the cellList with cellIdentity of Cell A

```
cellList {
    plmn-Identity {mcc, mnc}, -- see table 5.4.9-2 for mcc/mnc ran-AreaCells 000000001'B
```

- d) Deactivate Cell A and activate Cell B with *uac-BarringInfo* in SIB1 set as in the table:
 - Refer to Annex A for the Methods UAC_BarringInfo_xxxxxx() in the table.
- e) UE attempts to initiate RRCResumeRequest procedure with resumeCause set to rna-Update.
- f) The test is repeated for each set of values in the table.

5.4.9.4.3 Acceptance criteria

For the Table 5.4.9-1

- After step a) the UE shall make a successful or not successful Registration to the network in accordance with the result indicated in the table.
- After step b) the UE shall make a successful or not successful MO Data call in accordance with the result indicated in the table if the step is applicable.

For the Table 5.4.9-2

- After step e) the UE shall make a successful or not successful RRC Resumption for RNA Update in accordance with the result indicated in the table.

Table 5.4.9-1

TC	Access	l	JSIM		SIB1		Result	
Seq#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	Access Identity	Registration successful?	MO Data call successful?		
1.1	7	0x00 00 00 00	00010	12	Not Present	246 / 081	Yes	Yes
1.2	3	0x00 00 00 00	00010	12		246 / 081	No	NA
1.3	3	0x00 00 00 00	00010	12		246 / 081	No	NA
1.4	3	0x00 00 00 00	00010	12		246 / 082	Yes	Yes
1.5	3	0x00 00 00 00	00010	12		246 / 082	No	NA
1.6	3	0x00 00 00 00	00010	12		244 / 081	No	NA
1.7	3	0x00 00 00 00	00010	12		246 / 081	Yes	Yes
1.8	3	0x00 00 00 00	01110	12,13,14		246 / 081	Yes	Yes
1.9	7	0x00 00 00 00	00010	12		246 / 081	Yes	No
1.10	7	0x00 00 00 00	00010	12		246 / 082	Yes	No
1.11	7	0x00 00 00 00	00010	12		244 / 081	Yes	No
1.12	7	0x00 00 00 00	00010	12		246 / 081	Yes	No
1.13	3	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(3,0x0000100'B)	246 / 081	No	NA

1.14	3	0x00 00 00 00	00100	13	UAC_BarringInfo_PerPLMN(3,0x0000100'B)	246 / 081	No	NA
1.15	3	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(3,0x0000000'B)	246 / 082	Yes	Yes
1.16	3	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(3,0x0000100'B)	246 / 082	No	NA
1.17	3	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(3,0x0000010'B)	246 / 082	Yes	Yes
1.18	7	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(7,0x0000100'B)	246 / 081	Yes	No
1.19	7	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(7,0x0000000'B)	244 / 081	Yes	No
1.20	7	0x00 00 00 00	00100	13	UAC_BarringInfo_Common2(3,0x0000010'B, 7,0x0000100'B)	246 / 081	Yes	No
1.21	3	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(3,0x0000010'B)	246 / 081	No	NA
1.22	3	0x00 00 00 00	00010	14	UAC_BarringInfo_PerPLMN(3,0x0000010'B)	246 / 081	No	NA
1.23	3	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(3,0x0000000'B)	246 / 082	Yes	Yes
1.24	3	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(3,0x0000010'B)	246 / 082	No	NA
1.25	3	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(3,0x0001100'B)	246 / 082	Yes	Yes
1.26	7	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(7,0x0000010'B)	246 / 081	Yes	No
1.27	7	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(7,0x0000000'B)	244 / 081	Yes	No
1.28	7	0x00 00 00 00	00010	14	UAC_BarringInfo_Common2(3,0x0000100'B, 7,0x0000010'B)	246 / 081	Yes	No

Table 5.4.9-2

тс	Access	ι	JSIM		SIB1		Result	
Seq#	Category	EFuac_aic	EF _{ACC} (Byte 1 b8-b4)	Access Identity	uac-BarringInfo	PLMN- Identity (MCC/MNC)	RRCResumeRequest with resumeCause set to rna-Update successful?	
2.1	8	0x00 00 00 00	00010	12	Not Present	246 / 081	Yes	
2.2	8	0x00 00 00 00	00010	12	UAC_BarringInfo_Common(8,0x0001000'B)	246 / 081	No	
2.3	8	0x00 00 00 00	00010	12	UAC_BarringInfo_PerPLMN(8,0x00000000'B)	246 / 081	Yes	
2.4	8	0x00 00 00 00	00010	12	UAC_BarringInfo_Common(8,0x0010000'B)	246 / 082	Yes	
2.5	8	0x00 00 00 00	00010	12	UAC_BarringInfo_Common2 (7,0x0010000'B, 8,0x0000000'B)	244 / 081	No	
2.6	8	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(8,0x0000100'B)	246 / 081	No	
2.7	8	0x00 00 00 00	00100	13	UAC_BarringInfo_PerPLMN(8,0x00000000'B)	246 / 081	Yes	
2.8	8	0x00 00 00 00	00100	13	UAC_BarringInfo_Common(8,0x0000100'B)	246 / 082	No	
2.9	8	0x00 00 00 00	00100	13	UAC_BarringInfo_Common2 (7,0x0001000'B, 8,0x0000000'B)	244 / 081	No	
2.10	8	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(8,0x0000010'B)	246 / 081	No	

2.11	8	0x00 00 00 00	00010	14	UAC_BarringInfo_PerPLMN(246 / 081	Yes
					8,0x0000000'B)		
2.12	8	0x00 00 00 00	00010	14	UAC_BarringInfo_Common(8,0x0000010'B)	246 / 082	No
2.13	8	0x00 00 00 00	00010	14	UAC_BarringInfo_Common2 (7,0x0000100'B, 8,0x0000000'B)	244 / 081	No

5.4.10 FFS

5.4.11 FFS

6 Security related Tests

6.1 PIN handling

6.1.1 Entry of PIN

6.1.1.1 Definition and applicability

The PIN is a number used to authenticate the user to the UICC for security. Entry of the correct PIN allows PIN-protected data to be accessed over the UICC-Terminal interface.

6.1.1.2 Conformance requirement

Following insertion of the UICC and switching on the UE, the Terminal shall check the state of the PIN. If the PIN is enabled, the Terminal asks the user for PIN verification.

The VERIFY PIN function verifies the PIN presented by the Terminal to the UICC.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.1.

6.1.1.3 Test purpose

- 1) To verify that the PIN verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.1.4 Method of test

6.1.1.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

6.1.1.4.2 Procedure

a) The Terminal is powered on.

b) When the UE is in the "PIN check" mode, the sequence "2468#" shall be entered.

6.1.1.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01".
- 2) After step b) the UE shall give an indication "OK", following a successful execution of the command.

6.1.2 Change of PIN

6.1.2.1 Definition and applicability

The PIN may be changed by the user, by entering the old and new PIN. The length of the PIN is between 4 and 8 digits.

6.1.2.2 Conformance requirement

The Terminal shall support the change of PIN procedure as defined in ETSI TS 102 221 [5], clause 11.1.10.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.2.

6.1.2.3 Test purpose

- 1) To verify that the PIN substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.

6.1.2.4 Method of test

6.1.2.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled.

The default UICC is used.

The Terminal is powered-on, with the correct PIN entered.

6.1.2.4.2 Procedure

- Enter "**04*2468*01234567*01234567#" or initiate an equivalent MMI dependent procedure to change the PIN from '2468' to '01234567'.
- b) The UE is switched off and on.
- c) When the UE is in the "PIN check" mode, the sequence "2468#" shall be entered.
- d) The UE is switched off and on.
- e) When the UE is in the "PIN-check", mode the sequence "01234567#" shall be entered.

6.1.2.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN command to the UICC, with the parameter P2 set to "01".
- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN is accepted.

- 3) After step c), the UE shall give an indication that the entered PIN is not accepted.
- 4) After step e), the UE shall give an indication "OK".

6.1.3 Unblock PIN

6.1.3.1 Definition and applicability

After three consecutive wrong entries of the PIN, the PIN shall become blocked. The Unblock PIN command is used to unblock the PIN. This function may be performed whether or not the PIN is blocked.

6.1.3.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in ETSI TS 102 221 [5], clause 11.1.13.

Reference:

- ETSI TS 102 221 [5], clause 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.3.

6.1.3.3 Test purpose

- 1) To verify that the PIN unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.3.4 Method of test

6.1.3.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used.

6.1.3.4.2 Procedure

Sequence A:

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**05*13243546*1234*1234#"
- c) The Terminal is powered off and on.
- d) Enter the new PIN: "1234#".
- e) The Terminal is powered off and on.
- f) Enter a wrong PIN three times.
- g) Enter "**05*13243546*2468*2468#".
- h) The Terminal is powered off and on.
- i) Enter the new PIN: "2468#".

Sequence B:

a) The Terminal is powered on.

- b) Enter a wrong PIN three times.
- c) The user shall initiate a MMI dependent procedure to unblock the PIN with unblock code '13243546' and a new PIN '2468'.
- d) The Terminal is powered off and on.
- e) Enter the new PIN: "2468#".

6.1.3.5 Acceptance criteria

Sequence A:

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "01".
- 2) After step d), the Terminal shall indicate that the PIN has been accepted.
- 3) After step f), the Terminal shall indicate that the PIN has been blocked.
- 4) After step g), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "01".
- 5) After step i), the Terminal shall indicate that the PIN has been accepted.

Sequence B:

- 1) After step b), the Terminal shall indicate that the PIN has been blocked.
- 2) After step c), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "01".
- 3) After step e), the Terminal shall indicate that the PIN has been accepted.

6.1.4 Entry of PIN2

6.1.4.1 Definition and applicability

The PIN2 is a number used to authenticate the user to the UICC for security. Entry of the correct PIN2 allows PIN2-protected data to be accessed over the UICC-Terminal interface.

6.1.4.2 Conformance requirement

Before allowing the access to PIN2 protected data, the Terminal shall ask the user for PIN2 verification. Only after presenting the PIN2, the user shall get access to these data.

The VERIFY PIN function verifies the PIN2 presented by the Terminal to the UICC.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.1.

6.1.4.3 Test purpose

- 1) To verify that the PIN2 verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.4.4 Method of test

6.1.4.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

6.1.4.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN)
- c) When the UE is in the "PIN2 check" mode, the sequence "3579#" shall be entered.

6.1.4.5 Acceptance criteria

- 1) After step c) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "81".
- 2) After step c) the UE shall give an indication "OK", following a successful execution of the command.

6.1.5 Change of PIN2

6.1.5.1 Definition and applicability

The PIN2 may be changed by the user, by entering the old and new PIN2. The length of the PIN2 is between 4 and 8 digits.

6.1.5.2 Conformance requirement

The Terminal shall support the change of PIN2 procedure as defined in ETSI TS 102 221 [5], clause 11.1.10.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.2.

6.1.5.3 Test purpose

- 1) To verify that the PIN2 substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.

6.1.5.4 Method of test

6.1.5.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN2 enabled.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

The Terminal is powered-on, with the correct PIN entered.

6.1.5.4.2 Procedure

- a) Enter "**042*3579*12345678*12345678#" or initiate an equivalent MMI dependent procedure to change PIN2 from '3579' to '12345678'.
- b) The UE is switched off and on and the correct PIN is entered.
- c) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- d) When the UE is in the "PIN2 check" mode, the sequence "3579#" shall be entered.
- e) The UE is switched off and on and the correct PIN is entered.
- f) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- g) When the UE is in the "PIN2 check", mode the sequence "12345678#" shall be entered.

6.1.5.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN2 command to the UICC, with the parameter P2 set to "81".
- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN2 is accepted.
- 3) After step d), the UE shall give an indication that the entered PIN2 is not accepted.
- 4) After step g), the UE shall give an indication "OK".

6.1.6 Unblock PIN2

6.1.6.1 Definition and applicability

After three consecutive wrong entries of the PIN2, the PIN2 shall become blocked. The Unblock PIN2 command is used to unblock the PIN2. This function may be performed whether or not the PIN2 is blocked.

6.1.6.2 Conformance requirement

The Terminal shall support the Unblock PIN2 command, as defined in ETSI TS 102 221 [5], clause 11.1.13.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.3.

6.1.6.3 Test purpose

- 1) To verify that the PIN2 unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.6.4 Method of test

6.1.6.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

6.1.6.4.2 Procedure

Sequence A:

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**052*08978675*1234*1234#"
- c) The Terminal is powered off and on and the correct PIN is entered.
- d) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- e) Enter the new PIN2: "1234#".
- f) The Terminal is powered off and on and the correct PIN is entered.
- g) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- h) Enter a wrong PIN2 three times.
- i) Enter "**052*08978675*3579*3579#".
- j) The Terminal is powered off and on and the correct PIN is entered.
- k) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- 1) Enter the new PIN2: "3579#".

Sequence B:

- a) The Terminal is powered on.
- b) Enter a wrong PIN2 three times.
- c) The user shall initiate a MMI dependent procedure to unblock the PIN2 with unblock code '08978675' and a new PIN '3579'.
- d) The Terminal is powered off and on and the correct PIN is entered.
- e) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- f) Enter the new PIN2: "3579#".

6.1.6.5 Acceptance criterias

Sequence A:

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "81".
- 2) After step e), the Terminal shall indicate that the PIN2 has been accepted.
- 3) After step h), the Terminal shall indicate that the PIN2 has been blocked.
- 4) After step i), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "81".
- 5) After step 1), the Terminal shall indicate that the PIN2 has been accepted.

Sequence B:

- 1) After step b), the Terminal shall indicate that the PIN2 has been blocked.
- 2) After step c), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "81".

3) After step f), the Terminal shall indicate that the PIN2 has been accepted.

6.1.7 Replacement of PIN

6.1.7.1 Definition and applicability

The Universal PIN may be used to replace a PIN used to authenticate the user to the UICC for security. In this case entry of the correct Universal PIN allows PIN-protected data to be accessed over the UICC-Terminal interface. ETSI TS 102 221 [5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

6.1.7.2 Conformance requirement

The Terminal shall support the usage of the Universal PIN as replacement PIN and the replacement procedure as defined in ETSI TS 102 221 [5], clause 11.1.11, as well as the procedure to disable the replacement defined in ETSI TS 102 221 [5], clause 11.1.12.

Reference:

- ETSI TS 102 221 [5], clauses 9, 11.1.11 and 11.1.12;
- TS 31.102 [4], clause 6.

6.1.7.3 Test purpose

- 1) To verify that the PIN replacement is supported by the Terminal correctly.
- 2) To verify that the PIN replacement procedure is performed by the Terminal correctly.
- 3) To verify that the procedure to disable the PIN replacement is performed by the Terminal correctly.

6.1.7.4 Method of test

6.1.7.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

6.1.7.4.2 Procedure

- a) The Terminal is powered on.
- b) When the Terminal is in the "PIN check" mode, the sequence "2468#" shall be entered.
- c) The user shall initiate an MMI dependent procedure to replace the PIN by the Universal PIN.
- d) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2468#" shall be entered.
- e) The correct Universal PIN is entered.
- f) The user shall initiate an MMI dependent procedure to disable the replacement of the PIN by the Universal PIN.
- g) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2839#" shall be entered.
- h) The correct PIN is entered.

6.1.7.5 Acceptance criteria

1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01".

- 2) After step c), the Terminal shall send a DISABLE PIN command to the UICC, with parameter P1="91" and P2 = "01".
- 3) After step d) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 4) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.
- 5) After step f), the Terminal shall send an ENABLE PIN command to the UICC, with parameter P2 = "01".
- 6) After step g) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 7) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.

6.1.8 Change of Universal PIN

6.1.8.1 Definition and applicability

The Universal PIN may be changed by the user, by entering the old and new Universal PIN. The length of the Universal PIN is between 4 and 8 digits.

6.1.8.2 Conformance requirement

The Terminal shall support the change of PIN procedure as defined in ETSI TS 102 221 [5], clause 11.1.10.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.10;
- TS 31.102 [4], clause 6.

6.1.8.3 Test purpose

To verify that the PIN substitution procedure is performed correctly by the Terminal.

6.1.8.4 Method of test

6.1.8.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled.

The default UICC is used with the following exception:

- The Universal PIN is used as a replacement of the PIN.

The Terminal is powered-on, with the correct Universal PIN entered.

6.1.8.4.2 Procedure

- a) The user shall initiate an MMI dependent procedure to change the Universal PIN to "01234567".
- b) The UE is switched off and on.
- c) When the UE is in the "PIN check" mode, the sequence "2839#" shall be entered.
- d) The UE is switched off and on.
- e) When the UE is in the "PIN check", mode the sequence "01234567#" shall be entered.

6.1.8.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN command to the UICC, with the parameter P2 set to "11".
- 2) Following the successful execution of the command, the UE shall give an indication that the new (Universal) PIN is accepted.
- 3) After step c), the UE shall give an indication that the entered (Universal) PIN is not accepted.
- 4) After step e), the UE shall give an indication "OK".

6.1.9 Unblock Universal PIN

6.1.9.1 Definition and applicability

After three consecutive wrong entries of the PIN, the PIN shall become blocked. The Unblock PIN command is used to unblock the PIN. This function may be performed whether or not the PIN is blocked.

6.1.9.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in ETSI TS 102 221 [5], clause 11.1.13.

Reference:

- ETSI TS 102 221 [5], clause 11.1.13;
- TS 31.102 [4], clause 6.

6.1.9.3 Test purpose

To verify that the PIN unblocking procedure is performed correctly.

6.1.9.4 Method of test

6.1.9.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used.

6.1.9.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) The user shall initiate an MMI dependent procedure to unblock the Universal PIN and set the new Universal PIN value to "1234"
- c) The Terminal is powered off and on.
- d) Enter the new PIN: "1234#".
- e) The Terminal is powered off and on.
- f) Enter a wrong PIN three times.
- g) The user shall initiate an MMI dependent procedure to unblock the Universal PIN and set the new Universal PIN value to "2839".
- h) The Terminal is powered off and on.
- i) Enter the new PIN: "2839#".

6.1.9.5 Acceptance criteria

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "11".
- 2) After step d), the Terminal shall indicate that the (Universal) PIN has been accepted.
- 3) After step f), the Terminal shall indicate that the (Universal) PIN has been blocked.
- 4) After step g), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "11".
- 5) After step j), the Terminal shall indicate that the (Universal) PIN has been accepted.

6.1.10 Entry of PIN on multi-verification capable UICCs

6.1.10.1 Definition and applicability

The PIN is a number used to authenticate the user to the UICC for security. Entry of the correct PIN allows PIN-protected data to be accessed over the UICC-Terminal interface. ETSI TS 102 221 [5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

6.1.10.2 Conformance requirement

Following insertion of the UICC and switching on the UE, the Terminal shall check the state of the PIN. If the PIN is enabled, the Terminal asks the user for PIN verification.

The VERIFY PIN function verifies the PIN presented by the Terminal to the UICC.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.1.

6.1.10.3 Test purpose

- 1) To verify that the PIN verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "01" to "08" as PIN.

6.1.10.4 Method of test

6.1.10.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled, and powered off.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the key reference of the PIN and "87" as key reference of the PIN2 with the following values:

PIN

Key reference: 07
Logically:

_	•			
		-	 	

8642

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	38	36	34	32	FF	FF	FF	FF

64534231

9753

F7697090

Unblock PIN

Key reference 07

Logically:

Coding:	B1	B2	В3	B4	B5	В6	B7	B8
Hex	36	34	35	33	34	32	33	31

PIN₂

Key reference 87

Logically:

Coding:	B1	B2	В3	B4	B5	B6	B7	В8
Hex	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logicai	1y:	3/08/3	980					
Coding:	В1	B2	В3	B4	B5	В6	В7	В8
Hex	35	37	36	38	37	39	38	30

6.1.10.4.2 Procedure

- a) The Terminal is powered on.
- b) When the UE is in the "PIN check" mode, the sequence "8642#" shall be entered.

6.1.10.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07".
- 2) After step b) the UE shall give an indication "OK", following a successful execution of the command.

6.1.11 Change of PIN on multi-verification capable UICCs

6.1.11.1 Definition and applicability

The PIN may be changed by the user, by entering the old and new PIN. The length of the PIN is between 4 and 8 digits. ETSI TS 102 221 [5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

6.1.11.2 Conformance requirement

The Terminal shall support the change of PIN procedure as defined in TS 102 221 [5], clause 11.1.10.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.2.

6.1.11.3 Test purpose

- 1) To verify that the PIN substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "01" to "08" as PIN.

6.1.11.4 Method of test

6.1.11.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Logically: 8642

Coding:	B1	B2	B3	B4	B5	B6	B7	В8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically:	64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	В8
Hex	36	34	35	33	34	32	33	31

PIN2

Key reference 87

Logically: 9753

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex								

Unblock PIN2

Hex

Key reference 87

Logically:		576879	57687980					
Coding:	В1	B2	В3	В4	B5	В6	В7	В8

37

The Terminal is powered-on, with the correct PIN entered.

36

6.1.11.4.2 Procedure

a) Enter "**04*8642*01234567*01234567#" or initiate an equivalent MMI dependent procedure to change the PIN from '8642' to '01234567'...

30

38

- b) The UE is switched off and on.
- c) When the UE is in the "PIN check" mode, the sequence "8642#" shall be entered.
- d) The UE is switched off and on.
- e) When the UE is in the "PIN check", mode the sequence "01234567#" shall be entered.

6.1.11.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN command to the UICC, with the parameter P2 set to "07".
- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN is accepted.
- 3) After step c), the UE shall give an indication that the entered PIN is not accepted.
- 3) After step e), the UE shall give an indication "OK".

6.1.12 Unblock PIN on multi-verification capable UICCs

6.1.12.1 Definition and applicability

After three consecutive wrong entries of the PIN, the PIN shall become blocked. The Unblock PIN command is used to unblock the PIN. This function may be performed whether or not the PIN is blocked. ETSI TS 102 221 [5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

6.1.12.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in ETSI TS 102 221 [5], clause 11.1.13.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.3.

6.1.12.3 Test purpose

- 1) To verify that the PIN unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "01" to "08" as PIN.

6.1.12.4 Method of test

6.1.12.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Logically: 8642

Coding: Hex			B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock Pl	IN						

Unblock PIN

Key reference 07

Logically: 64534231

Coding: В1 B2 В3 **B5** B6 B7 B8 Hex 36 34 35 33 34 32 33 31

PIN2

Key reference 87

Logically: 9753

Coding: B2 ВЗ В7 B8 В1 B4 B5 B6 Hex 39 37 35 33 FF FF FF FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding: В1 B2 В3 B4 B5 В6 В7 B8 Hex 35 30 37 36 38 37 39 38

6.1.12.4.2 Procedure

Sequence A:

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**05*64534231*1234*1234#"
- c) The Terminal is powered off and on.
- d) Enter the new PIN: "1234#".
- e) The Terminal is powered off and on.
- f) Enter a wrong PIN three times.
- g) Enter "**05*64534231*8642*8642#".
- h) The Terminal is powered off and on.
- i) Enter the new PIN: "8642#".

Sequence B:

- a) The Terminal is powered on.
- b) Enter a wrong PIN three times.
- c) The user shall initiate a MMI dependent procedure to unblock the PIN with unblock code '64534231' and a new PIN '8642'.
- d) The Terminal is powered off and on.

e) Enter the new PIN: "8642#".

6.1.12.5 Acceptance criteria

Sequence A:

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "07".
- 2) After step d), the Terminal shall indicate that the PIN has been accepted.
- 3) After step f), the Terminal shall indicate that the PIN has been blocked.
- 4) After step g), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "07".
- 5) After step j), the Terminal shall indicate that the PIN has been accepted.

Sequence B:

- 1) After step b), the Terminal shall indicate that the PIN has been blocked.
- 2) After step c), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "07".
- 3) After step e), the Terminal shall indicate that the PIN has been accepted.

6.1.13 Entry of PIN2 on multi-verification capable UICCs

6.1.13.1 Definition and applicability

The PIN2 is a number used to authenticate the user to the UICC for security. Entry of the correct PIN2 allows PIN2-protected data to be accessed over the UICC-Terminal interface. ETSI TS 102 221 [5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

6.1.13.2 Conformance requirement

Before allowing the access to PIN2 protected data, the Terminal shall ask the user for PIN2 verification. Only after presenting the PIN2, the user shall get access to these data.

The VERIFY PIN function verifies the PIN2 presented by the Terminal to the UICC.

Reference:

- ETSI TS 102 221 [5], 9 and clause 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.1.

6.1.13.3 Test purpose

- 1) To verify that the PIN2 verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "81" to "88" as PIN2.

6.1.13.4 Method of test

6.1.13.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled, and powered off.

The default UICC is used with the following exceptions:

8642

64534231

9753

57687980

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Logically:

Coding: В1 B2 В3 B4 **B**5 В7 **B8** B6 36 34 32 FF FF FF FF Hex 38

Unblock PIN

Key reference 07 Logically:

Coding: В1 B2 В3 B4 **B**5 B6 **B7** В8 Hex 36 34 35 33 34 32 33 31

PIN2

Key reference 87 Logically:

В1 B2 ВЗ **B**5 В7 В8 Coding: B4 B6 FF FF Hex 39 37 35 33 FF FF

Unblock PIN2

Key reference 87

Logically:

Coding: В1 B2 В3 B4 **B**5 B6 B7 **B8** 38 39 30 Hex 35 37 36 37 38

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used. In this case the above mentioned exceptions shall apply.

6.1.13.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN)
- c) When the UE is in the "PIN2 check" mode, the sequence "9753#" shall be entered.

6.1.13.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "87".
- 2) After step b) the UE shall give an indication "OK", following a successful execution of the command.

6.1.14 Change of PIN2 on multi-verification capable UICCs

6.1.14.1 Definition and applicability

The PIN2 may be changed by the user, by entering the old and new PIN2. The length of the PIN2 is between 4 and 8 digits. ETSI TS 102 221 [5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

6.1.14.2 Conformance requirement

The Terminal shall support the change of PIN2 procedure as defined in ETSI TS 102 221 [5], clause 11.1.10.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.2.

6.1.14.3 Test purpose

- 1) To verify that the PIN2 substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "81" to "88" as PIN2.

6.1.14.4 Method of test

6.1.14.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN2 enabled.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Logically: 8642

B2 В3 Coding: **B**1 R4 **B**5 **B6 B7** R۸ Hex 38 36 32 FF FF FF

Unblock PIN

Key reference 07

Logically: 64534231

B2 Coding: **B**3 R4 **B5 R6 B7 B8** В1 36 Hex 34 35 33 34 32 33 31

PIN2

Key reference 87

Logically:		9753					
Coding: Hex	B1 39		B3 35	B4 33	B5 FF	B6 FF	B8 FF

Unblock PIN2

Key reference 87

Logically: 57687980 **B7 B8** Coding: B1 R2 **B**3 R4 **B**5 **B6** Hex 35 37 36 38 37 39 38 30

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used. In this case the above mentioned exceptions shall apply.

The Terminal is powered-on, with the correct PIN entered.

6.1.14.4.2 Procedure

- a) Enter "**042*9753*12345678*12345678#" or initiate an equivalent MMI dependent procedure to change PIN2 from '9753' to '12345678'.
- b) The UE is switched off and on and the correct PIN is entered.
- c) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- d) When the UE is in the "PIN2 check" mode, the sequence "9753#" shall be entered.
- e) The UE is switched off and on and the correct PIN is entered.
- f) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- g) When the UE is in the "PIN2-check", mode the sequence "12345678#" shall be entered.

6.1.14.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN2 command to the UICC, with the parameter P2 set to "87".
- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN2 is accepted.
- 3) After step d), the UE shall give an indication that the entered PIN2 is not accepted.
- 3) After step g), the UE shall give an indication "OK".

6.1.15 Unblock PIN2 on multi-verification capable UICCs

6.1.15.1 Definition and applicability

After three consecutive wrong entries of the PIN2, the PIN2 shall become blocked. The Unblock PIN2 command is used to unblock the PIN2. This function may be performed whether or not the PIN2 is blocked. ETSI TS 102 221 [5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

6.1.15.2 Conformance requirement

The Terminal shall support the Unblock PIN2 command, as defined in ETSI TS 102 221 [5], clause 11.1.13.

Reference:

- ETSI TS 102 221 [5], clauses 9 and 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], clause 6.6.3.

6.1.15.3 Test purpose

- 1) To verify that the PIN2 unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.
- 3) To verify that the Terminal supports key references in the range of "81" to "88" as PIN2.

6.1.15.4 Method of test

6.1.15.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Coding:

Hex

B1

35

B2

B3

36

B4

38

B5

37

Logically:		8642						
Coding: Hex	B1 38	B2 36	B3 34	B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock PI	N							
Key referen	nce 07							
Logical	ly:	645342	231					
Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2								
Key referen	nce 87							
Logically:		9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock PI	N2							
Key reference 87								
Logical	ly:	576879	080					

B6

В7

38

B8

30

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used. In this case the above mentioned exceptions shall apply.

6.1.15.4.2 Procedure

Sequence A:

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**052*57687980*1234*1234#"
- c) The Terminal is powered off and on and the correct PIN is entered.
- d) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- e) Enter the new PIN2: "1234#".
- f) The Terminal is powered off and on and the correct PIN is entered.
- g) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- h) Enter a wrong PIN2 three times.
- i) Enter "**052*57687980*9753*9753#".
- j) The Terminal is powered off and on and the correct PIN is entered.
- k) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- 1) Enter the new PIN2: "9753#".

Sequence B:

- a) The Terminal is powered on .
- b) Enter a wrong PIN2 three times.
- c) The user shall initiate a MMI dependent procedure to unblock the PIN2 with unblock code '57687980' and a new PIN2 '9753'.
- d) The Terminal is powered off and on and the correct PIN is entered.
- e) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- f) Enter the new PIN2: "9753#".

6.1.15.5 Acceptance criterias

Sequence A:

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "87".
- 2) After step e), the Terminal shall indicate that the PIN2 has been accepted.
- 3) After step h), the Terminal shall indicate that the PIN2 has been blocked.
- 4) After step i), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "87".
- 5) After step l), the Terminal shall indicate that the PIN2 has been accepted.

Sequence B:

- 1) After step b), the Terminal shall indicate that the PIN2 has been blocked.
- 2) After step c), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "87".
- 3) After step f), the Terminal shall indicate that the PIN2 has been accepted.

6.1.16 Replacement of PIN with key reference "07"

6.1.16.1 Definition and applicability

The Universal PIN may be used to replace a PIN used to authenticate the user to the UICC for security. In this case entry of the correct Universal PIN allows PIN-protected data to be accessed over the UICC-Terminal interface.

6.1.16.2 Conformance requirement

The Terminal shall support the usage of the Universal PIN as replacement PIN and the replacement procedure as defined in ETSI TS 102 221 [5], clause 11.1.11, as well as the procedure to disable the replacement defined in ETSI TS 102 221 [5], clause 11.1.12.

Reference:

- ETSI TS 102 221 [5], clauses 9, 11.1.11 and 11.1.12;
- TS 31.102 [4], clause 6.

6.1.16.3 Test purpose

- 1) To verify that the PIN replacement is supported by the Terminal correctly.
- 2) To verify that the PIN replacement procedure is performed by the Terminal correctly.
- 3) To verify that the procedure to disable the PIN replacement is performed by the Terminal correctly.
- 4) To verify that the Terminal supports key references in the range of "01" to "08" as PIN.

6.1.16.4 Method of test

6.1.16.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled, and powered off.

The default UICC is used with the following exceptions:

The UICC shall be configured to use "07" as the reference of the PIN and "87" as reference of the PIN2 with the following values:

PIN

Key reference: 07

Logically:	8642
------------	------

Coding:	B1	B2	В3	B4	B5	В6	B7	В8
Hex								

Unblock PIN

Key reference 07

Logical	ly:	645342	231					
Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	36	34	35	33	34	32	33	31

PIN₂

Key reference 87

Logical	ly:	9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock Pl	IN2							
Key referei	nce 87							
Logically:		576879	980					
Coding: Hex	B1 35	B2 37	B3 36	B4 38	B5 37	B6 39	B7 38	B8 30

6.1.16.4.2 Procedure

- a) The Terminal is powered on.
- b) When the Terminal is in the "PIN check" mode, the sequence "8642#" shall be entered.
- c) The user shall initiate an MMI dependent procedure to replace the PIN by the Universal PIN.
- d) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "8642#" shall be entered.
- e) The correct Universal PIN is entered.
- f) The user shall initiate an MMI dependent procedure to disable the replacement of the PIN by the Universal PIN.
- g) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2839#" shall be entered.
- h) The correct PIN is entered.

6.1.16.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07".
- 2) After step c), the Terminal shall send a DISABLE PIN command to the UICC, with parameter P1="91" and P2 = "07".
- 3) After step d) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 4) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.
- 5) After step f), the Terminal shall send an ENABLE PIN command to the UICC, with parameter P2 = "07".
- 6) After step g) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 7) After step h) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.

6.2 Fixed Dialling Numbers (FDN) handling

6.2.1 Terminal and USIM with FDN enabled, EF_{ADN} readable and updateable

6.2.1.1 Definition and applicability

Fixed Dialling Numbers (FDN) is a service defined for the USIM. An enabled FDN service results in call restrictions for the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of FDN the UE runs the FDN capability request procedure during UICC-Terminal initialisation. During the initialisation the Terminal shall request the Emergency call codes of the USIM EF_{ECC} . At the time an emergency call is setup using the emergency call code read from the EF_{ECC} , the UE shall use the category of the emergency service indicated.

6.2.1.2 Conformance requirement

- 1) Recognising the state of the USIM (FDN enabled) the UE shall perform the UICC initialisation procedure as specified.
- 2) The UE allows call set-up to a directory number as stored in EF_{FDN}.
- 3) The UE allows call set-up to a directory number as stored in EF_{FDN} and extended by digits in the end.
- 4) The UE does not allow call set-up to a directory number stored in EF_{FDN} but with missing digits at the end.
- 5) The UE does not allow call set-up to a directory number having no reference in EF_{FDN}.
- 6) The UE does not allow call set-up of an emergency call using the emergency numbers stored in the Terminal except "112", "911", the emergency numbers stored on the SIM/USIM and emergency numbers downloaded from the serving network (if any).
- 7) The UE allows call set-up of an emergency call using the emergency number stored in the USIM.

Reference:

- TS 22.101 [11], clauses 8 and A.24;
- TS 31.102 [4], clauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2;
- TS 24.008 [16], clause 10.5.4.33.

6.2.1.3 Test purpose

- 1) To verify that the Terminal allows call set-up to a FDN number.
- 2) To verify that the Terminal allows call set-up to a FDN number extended by some digits in the end.
- 3) To verify that the Terminal rejects call set-up to number having no reference in EF_{FDN}.
- 4) To verify that the Terminal rejects call set-up to a FDN number not completely corresponding to an entry in EF_{FDN} .
- 5) To verify that the Terminal does not allow emergency call set-up using the emergency number stored in the Terminal except "112", "911", the emergency numbers stored on the SIM/USIM and emergency numbers downloaded from the serving network (if any).
- 6) To verify that the Terminal allows emergency call set-up using the emergency number stored in the UISM.

6.2.1.4 Method of test

6.2.1.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing GERAN) transmits on the BCCH, with the following network parameters

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

The default FDN UICC with FDN service enabled and EF_{ADN} readable and updateable is installed into the Terminal.

The following expection applies:

EF_{ECC} (Emergency Call Codes)

Logically:		Emerger	Emergency call code: Emergency call code alpha identifier: Emergency call Service Category:					
Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	21	F2	FF	54	45	53	54	00

6.2.1.4.2 Procedure

- a) The UE is powered on and PIN is entered.
- b) Using the MMI a call set-up to the fixed dialling number 1 (record 1) is attempted.
- c) Using the MMI a call set-up to the fixed dialling number 2 (record 2) extended by "123" in the end is attempted.
- d) Using the MMI a call set-up to a number which is equal to the fixed dialling number 3 (record 3) without the last digit is attempted, e.g. by recalling the fixed dialling number 3 and deleting the last digit (only in display).
- e) Using the MMI a call set-up to the number "1234567" is attempted.
- f) Using the MMI an emergency call set-up is attempted using an emergency call code stored in the Terminal, but not "112", "911" nor one of the emergency numbers stored on the SIM/USIM emergency numbers downloaded from the serving network (if any).
- g) Using the MMI an emergency call set-up is attempted using either "112", "911" or an emergency number downloaded from the serving network (if any).
- h) Using the MMI an emergency call set-up is attempted using the emergency call code stored in the USIM (i.e. "122").

NOTE: For step f) one of the emergency call codes according to TS 22.101 [11], clause 10.1, except "112" and "911", shall be used (i.e. "000", "08", "110", "118", "119" or "999").

6.2.1.5 Acceptance criteria

- 1) After step a) the UE is registered and in idle state.
- 2) After steps b) and c) the UE shall allow call set-up and send the requested number across the air interface.
- 3) After steps d), e) and f) the UE shall prevent call set-up.
- 4) After steps g) and h) the UE shall allow emergency call by indicating the call setup as "Emergency Call".

6.2.2 Terminal and USIM with FDN disabled

6.2.2.1 Definition and applicability

Fixed Dialling Numbers (FDN) is a service defined for the USIM. An enabled FDN service results in call restrictions for the UE. Only directory numbers which are stored in the EF_{FDN} may be dialled by the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of FDN the UE runs the FDN capability request procedure during UICC-Terminal initialisation. Deactivation of the service by the subscriber is possible under the control of PIN2 and switches the USIM into a "normal", non restrictive USIM.

6.2.2.2 Conformance requirement

- 1) Recognising the state of the USIM (FDN disabled) the UE correctly performs the UICC initialisation procedure.
- 2) The UE allows call set-up to a directory number as stored in EF_{FDN}.
- 3) The UE allows call set-up to a directory number as stored in EF_{ADN}.
- 4) The UE allows call set-up to a directory number given in manually.

Reference:

- R99: TS 22.101 [11], clauses 8 and A.24
- Rel-4: TS 22.101 [11], clauses 9 and A.25
- Rel-5, Rel-6: TS 22.101 [11], clauses 10 and A.25;
- TS 31.102 [4], clauses 4.4.2.3, 4.2.24, 4.2.47, 5.1.1 and 5.3.2.

6.2.2.3 Test purpose

- 1) To verify that the Terminal as a result of the state of the USIM correctly performs the UICC-Terminal initialisation procedure.
- 2) To verify that the Terminal allows call set-up to a FDN number.
- 3) To verify that the Terminal allows call set-up to a ADN number.
- 4) To verify that the Terminal allows call set-up to manually given number.

6.2.2.4 Method of test

6.2.2.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN) /SS (in case of a Terminal accessing GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

The default FDN UICC is used with the following exception:

EF_{EST} (Enable Service Table)

Logically: Fixed Dialling Numbers disabled.

Barred Dialling Numbers disabled. APN Control list (ACL) disabled.

Coding: B1

binary 0000 0000

The UICC is installed into the Terminal and the UE is powered on.

6.2.2.4.2 Procedure

- a) Using the MMI a call set-up to the fixed dialling number 1 is attempted.
- b) Using the MMI a call set-up to the abbreviated dialling number 1 is attempted.
- c) Using the MMI a call set-up to the number "1234567" is attempted.

6.2.2.5 Acceptance criteria

After steps a), b) and c) the UE shall allow call set-up and send the requested number across the air interface.

6.2.3 Enabling, disabling and updating of FDN

6.2.3.1 Definition and applicability

FDN may be enabled and disabled by the subscriber under control of PIN2. Fixed dialling numbers are read with PIN and updated under control of PIN2.

6.2.3.2 Conformance requirement

- 1) Recognising the state of the USIM (FDN enabled) the UE shall perform the UICC initialisation procedure as specified.
- 2) The UE shall allow updating of EF_{FDN} by the use of PIN2.
- 3) The UE provides means to disable the FDN service by the use of PIN2.
- 4) The UE shall allow the use of EF_{ADN} after disabling of FDN.

Reference:

- R99: TS 22.101 [11], clauses 8 and A.24
- Rel-4: TS 22.101 [11], clauses 9 and A.25
- Rel-5, Rel-6: TS 22.101 [11], clause 10 and A.25;
- TS 31.102 [4], clauses 4.4.2.3, 4.2.24, 4.2.47, 5.1.1 and 5.3.2.

6.2.3.3 Test purpose

- 1) To verify that the Terminal correctly performs the update of a number in EF_{FDN}.
- 2) To verify that the Terminal correctly disables FDN service.
- 3) To verify that the Terminal recognises disabling of FDN and allows access to EF_{ADN}.

6.2.3.4 Method of test

6.2.3.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/SS (in case of a Terminal accessing GERAN) transmits on the BCCH, with the following network parameters

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

The default FDN UICC with FDN service enabled is installed into the Terminal.

6.2.3.4.2 Procedure

- a) The UE is powered on and PIN is entered.
- b) Using the MMI the directory number "+876543210" is stored in EF_{FDN} as fixed dialling number 1 (record 1). The alpha identifier is not changed. On request of the UE PIN2 is entered.
- c) Using the MMI the FDN disabling procedure is performed. On request of the UE PIN2 is entered.
- d) Using the MMI a call set-up to the abbreviated dialling number 1 (record 1) is attempted.
- e) The UE is soft-powered down.

6.2.3.5 Acceptance criteria

- 1) After step a) the UE is registered and in idle state.
- 2) After step c) the UE shall indicate that the FDN disabling procedure has been successful.
- 3) After step d) the UE shall allow call set-up and send the requested number across the air interface.
- 4) After step e) record 1 in EF_{FDN}, shall contain the following values:

Hex	B1 46			B4 31					B10 56	B11 34	B13 F0
	B14 FF	B15 FF	_	B17 FF	_	B19 FF	B20 FF				

6.2.4 Terminal and USIM with FDN enabled, EF_{ADN} readable and updateable (Rel-4 and onwards)

6.2.4.1 Definition and applicability

Fixed Dialling Numbers (FDN) is a service defined for the USIM. An enabled FDN service results in call restrictions for the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of FDN the UE runs the FDN capability request procedure during UICC-Terminal initialisation. During the initialisation the Terminal shall request the Emergency call codes of the USIM EF_{ECC} . At the time an emergency call is setup using the emergency call code read from the EF_{ECC} , the UE shall use the category of the emergency service indicated.

6.2.4.2 Conformance requirement

- 1) Recognising the state of the USIM (FDN enabled) the UE shall perform the UICC initialisation procedure as specified.
- 2) The UE allows call set-up to a directory number as stored in EF_{FDN}.

- 3) The UE allows call set-up to a directory number as stored in EF_{FDN} and extended by digits in the end.
- 4) The UE does not allow call set-up to a directory number stored in EF_{FDN} but with missing digits at the end.
- 5) The UE does not allow call set-up to a directory number having no reference in EF_{FDN}.
- 6) The UE does not allow call set-up of an emergency call using the emergency numbers stored in the Terminal except "112", "911", the emergency numbers stored on the SIM/USIM and emergency numbers downloaded from the serving network (if any).
- 7) The UE allows call set-up of an emergency call using the emergency number stored in the USIM.
- 8) The UE shall indicate the emergency service category as "Mountain Rescue", when using the emergency number stored in the USIM.

Reference:

- Rel-4: TS 22.101 [11], clauses 9 and A.25
- Rel-5, Rel-6: TS 22.101 [11], clauses 10 and A.25;
- TS 31.102 [4], clauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2;
- TS 24.008 [16], clause 10.5.4.33.

6.2.4.3 Test purpose

- 1) To verify that the Terminal allows call set-up to a FDN number.
- 2) To verify that the Terminal allows call set-up to a FDN number extended by some digits in the end.
- 3) To verify that the Terminal rejects call set-up to number having no reference in EF_{FDN}.
- 4) To verify that the Terminal rejects call set-up to a FDN number not completely corresponding to an entry in EF_{FDN} .
- 5) To verify that the Terminal does not allow emergency call set-up using the emergency number stored in the Terminal except "112", "911", the emergency numbers stored on the SIM/USIM and emergency numbers downloaded from the serving network (if any).
- 6) To verify that the Terminal allows emergency call set-up using the emergency number stored in the UISM.
- 7) To verify that the Terminal reads correctly the emergency service category.

6.2.4.4 Method of test

6.2.4.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing GERAN) transmits on the BCCH, with the following network parameters

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

The default FDN UICC with FDN service enabled and EF_{ADN} readable and updateable is installed into the Terminal.

6.2.4.4.2 Procedure

- a) The UE is powered on and PIN is entered.
- b) Using the MMI a call set-up to the fixed dialling number 1 (record 1) is attempted.

- c) Using the MMI a call set-up to the fixed dialling number 2 (record 2) extended by "123" in the end is attempted.
- d) Using the MMI a call set-up to a number which is equal to the fixed dialling number 3 (record 3) without the last digit is attempted, e.g. by recalling the fixed dialling number 3 and deleting the last digit (only in display).
- e) Using the MMI a call set-up to the number "1234567" is attempted.
- f) Using the MMI an emergency call set-up is attempted using an emergency call code stored in the Terminal, but not "112", "911" nor one of the emergency numbers stored on the SIM/USIM emergency numbers downloaded from the serving network (if any).
- g) Using the MMI an emergency call set-up is attempted using either "112", "911" or an emergency number downloaded from the serving network (if any).
- h) Using the MMI an emergency call set-up is attempted using the emergency call code stored in the USIM (i.e. "122").

NOTE: For step f) one of the emergency call codes according to TS 22.101 [11], clause 10.1, except "112" and "911", shall be used (i.e. "000", "08", "110", "118", "119" or "999").

6.2.4.5 Acceptance criteria

- 1) After step a) the UE is registered and in idle state.
- 2) After steps b) and c) the UE shall allow call set-up and send the requested number across the air interface.
- 3) After steps d), e) and f) the UE shall prevent call set-up.
- 4) After steps g) and h) the UE shall allow emergency call by indicating the call setup as "Emergency Call".
- 5) After step h) the UE shall send the emergency service category correctly as "Mountain Rescue".

6.3 Void

6.4 Advice of charge (AoC) handling

6.4.1 AoC not supported by USIM

6.4.1.1 Definition and applicability

If the Terminal under test supports Advice of Charge Charging, it shall still look at the capability of the USIM, before responding to any AoCC information from the network.

6.4.1.2 Conformance requirement

- An UE not supporting AoCC and in the outgoing call / U4 call delivered state, on receipt of a CONNECT message containing AoCC information shall acknowledge the CONNECT message but ignore and not acknowledge the AoCC information sent within the CONNECT.
- 2) An UE not supporting AoCC and in the outgoing call / U4 call delivered state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information sent within the FACILITY.
- 3) An UE not supporting AoCC and in the incoming call / U9 call confirmed state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information sent within the FACILITY.
- 4) An UE not supporting AoCC and in the U10 call active state, on receipt of a FACILITY message containing AoCC information, shall ignore and not acknowledge the AoCC information sent within the FACILITY.

References:

- TS 24.008 [16], clause 5.1.2.1;
- TS 23.086 [9], clauses 1.2, 1.3, 2.2 and 2.3;
- TS 24.086 [10], clause 2.

6.4.1.3 Test purpose

- 1) To verify that an UE not supporting AoCC (where the Terminal does support AoCC but the USIM does not) and in the outgoing call / U4 call delivered state, on receipt of a CONNECT message containing AoCC information shall acknowledge the CONNECT message but ignore and not acknowledge the AoCC information sent within the CONNECT.
- 2) To verify that an UE not supporting AoCC (where the Terminal does support AoCC but the USIM does not) and in the outgoing call / U4 call delivered state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information sent within the FACILITY.
- 3) To verify that an UE not supporting AoCC (where the Terminal does support AoCC but the USIM does not) and in the incoming call / U9 call confirmed state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information sent within the FACILITY.
- 4) To verify that an UE not supporting AoCC (where the Terminal does support AoCC but the USIM does not) and in the U10 call active state, on receipt of a FACILITY message containing AoCC information, shall ignore and not acknowledge the AoCC information sent within the FACILITY.

6.4.1.4 Method of test

6.4.1.4.1 Initial conditions

The Terminal shall be installed with a UICC or USIM simulator, with all elementary files coded as for the default UICC, with the exception of:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available;

User controlled PLMN selector available;

Fixed dialling numbers available; The GSM Access available;

The Group Identifier level 1 and level 2 not available;

AoC not available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xxxx xx11
 xxx0 xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

The generic call set up procedures for UTRAN defined in TS 34.108 [21], clause 7.2.3.2.3 and 7.2.3.1.3 and defined in TS 51.010-1 [22], clause 10 for GERAN are followed up to and including the reception, or transmission of the ALERTING message by the UE.

6.4.1.4.2 Procedure

- a) For an MO call in the U4 state the USS/SS transmits CONNECT containing AoCC information.
- b) For an MO call in the U4 state the USS/SS transmits FACILITY containing AoCC information.
- c) For an MT call in the U9 state the USS/SS transmits FACILITY containing AoCC information.
- d) For an MO call in the U10 state the USS/SS transmits FACILITY containing AoCC information.

6.4.1.5 Acceptance criteria

In all cases, the UE shall ignore the AoCC information sent to it in the Facility information elements as part of the CONNECT/FACILITY messages and not send any AoCC information acknowledgement. It shall be checked for 15 s that the UE does not transmit any AoCC information acknowledgement after the receipt of AoCC information.

6.4.2 Maximum frequency of ACM updating

6.4.2.1 Definition and applicability

During a call, the ACM shall be updated at the end of every interval. The interval length is the greater of either 5 s or the value given by parameter e2 (part of the Facility Information Element).

6.4.2.2 Conformance requirement

The ACM shall be incremented when the CCM is incremented or once every 5 s, whichever is the longer period.

When used the value '1C' shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.

Reference:

- TS 22.024 [8], clause 4.3, part h;
- TS 31.102 [4], clauses 4.2.9, 5.3.4 and Annex H.1.

6.4.2.3 Test purpose

- 1) To verify that the Terminal, during a call, increments the ACM every 5 s when e2 is less or equal to 5 s.
- 2) To verify that the Terminal is able to handle other values than '1C' as SFI of EF_{ACM}.

6.4.2.4 Method of test

6.4.2.4.1 Initial conditions

The Terminal shall be connected to the USIM simulator, with all elementary files coded as default with the exception of:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available;

User controlled PLMN selector available;

Fixed dialling numbers available; The GSM Access available;

The Group Identifier level 1 and level 2 not available;

AoC available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xxxx xx11
 xxx1 xxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{ACM} (Accumulated call meter)

Logically: 50 units

The SFI of EF_{ACM} shall be set to '18'.

EFACMmax (Accumulated call meter maximum)

Logically: 150 units

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

6.4.2.4.2 Procedure

- a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS 34.108 [21], clause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC eparameters sent in a Facility IE in the CONNECT message, as given below. The UE returns the AoCC acknowledgement after the reception of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the UE before or after the CONNECT ACKNOWLEDGE.
- b) The call is maintained for 90 s, then terminated by the USS. During the call, the USIM-simulator monitors the time intervals between successive INCREMENT commands. As the final INCREMENT command will have occurred as a result of call termination, the time interval calculated since the prior INCREMENT command shall be ignored.

Maximum Duration of Test:

2 minutes.

Expected Sequence A:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> USS	RRC CONNECTION REQUEST	
3		RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP	
		COMPLETE	
5		CM SERVICE REQUEST	
6	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity
7	HE VIICE	AUTHENTICATION RESPONSE	in step 8
8		SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call
	000 -> 0L	SECONTT MODE COMMAND	setup
9	UF -> USS	SECURITY MODE COMPLETE	Octup
10	UE -> USS		
11		CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER	
		SETUPCOMPLETE	
14		ALERTING	
15	USS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A16		CONNECT ACKNOWLEDGE	
A17	UE -> USS	FACILITY	As default message except contains Facility IE with
D40	115 1100	EAOU ITV	contents as indicated in ii) below
B16	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B17	LIE -> LISS	CONNECT ACKNOWLEDGE	Contents as indicated in ii) below
18	02 > 000	CONTECT MONITOWEEDGE	call duration 90 s after CAI information sent by USS,
19	USS -> UF	DISCONNECT	can darage to a droi of a morniagen control by coo,
20	UE -> USS		
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE	
		COMPLETE	

Expected Sequence B:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> SS	CHANNEL REQUEST	
3	SS -> UE	IMMEDIATE ASSIGNMENT	
4	UE -> SS	CM SERVICE REQUEST	
5	SS -> UE	CM SERVICE ACCEPT	
6	UE -> SS	SETUP	
7	SS -> UE	CALL PROCEEDING	
8	SS -> UE	ASSIGNMENT COMMAND	To a supported channel type
9		ASSIGNMENT COMPLETE	
10	SS -> UE	ALERTING	
11	SS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A12	UE -> SS	CONNECT ACKNOWLEDGE	
A13	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B12	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B13	UE -> SS	CONNECT ACKNOWLEDGE	·
14			call duration 90 s after CAI information sent by SS,
15	SS -> UE	DISCONNECT	
16	UE -> SS	RELEASE	
17	SS -> UE	RELEASE COMPLETE	
18	SS -> UE	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents:

7) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

The values of the e-parameters within the parameter part of the Facility Information Element shall be set as below:

e-parameters:

parameter:	e1	e2	e3	e4	e5	e6	E7
value	1	1	1	0	0	0	0

Values shown in table are in the format and have units as in TS 22.024 [8], clause 3.

ii) FACILITY Information Element with **Return Result** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

6.4.2.5 Acceptance criteria

The UE shall, during a call, send INCREMENT commands to the USIM every 5 s.

6.4.3 Call terminated when ACM greater than ACMmax

6.4.3.1 Definition and applicability

ACMmax gives the maximum value of ACM, at which the current chargeable calls shall be terminated and no further calls may be made (except emergency calls).

6.4.3.2 Conformance requirement

ACM shall be incremented by the value of CCM.

If the ACMmax is valid, and the ACM becomes equal to or exceeds the value of the ACMmax, then all calls in progress, chargeable to the user, shall be terminated by the UE, once the chargeable interval determined by the CAI has elapsed, (except emergency calls).

When used the value '1C' shall be used as SFI for EF_{ACM} , for compatibility reasons the terminal shall accept other values.

Reference:

- TS 22.024 [8], clauses 4.2.2 and 4.3 (part h);
- ETSI TS 102 221 [5], clause 14.1.3;
- TS 31.102 [4], clause 4.2.9, 5.3.4 and Annex H.1.

6.4.3.3 Test purpose

- 1) To verify that the Terminal increments the ACM by the correct number of units, even though this may take ACM above ACMmax.
- 2) To verify that the Terminal terminates the call.
- 3) To verify that the INCREMENT EF_{ACM} command is performed correctly by the terminal.
- 4) To verify that the Terminal is able to handle other values than '1C' as SFI of EF_{ACM}.

6.4.3.4 Method of test

6.4.3.4.1 Initial conditions

The Terminal shall be connected to a UICC or the USIM simulator, with all elementary files coded as default with the exception of:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available;

User controlled PLMN selector available;

Fixed dialling numbers available; The GSM Access available;

The Group Identifier level 1 and level 2 not available;

AoC available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xxxx xx11
 xxx1 xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{ACM} (Accumulated call meter)

Logically: 80 units

Coding: B1 B2 B3

binary 0000 0000 0000 0101 0000

The SFI of EF_{ACM} shall be set to '18'.

EFACMmax (Accumulated call meter maximum)

Logically: 94 units

Coding: B1 B2 B3

binary 0000 0000 0000 0101 1110

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

6.4.3.4.2 Procedure

a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS 34.108 [21], clause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC eparameters sent in a Facility IE in the CONNECT message, as given below. The UE returns the AoCC acknowledgement after the reception of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the UE before or after the CONNECT ACKNOWLEDGE.

- b) The call is maintained until cleared by the UE (after $30\ s$).
- c) The contents of ACM are checked.

Maximum Duration of Test:

2 minutes.

Expected Sequence A:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> USS	RRC CONNECTION REQUEST	
3	USS -> UE	RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP	
		COMPLETE	
4A		CM SERVICE REQUEST	
5	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity in step 8
6	UE -> USS	AUTHENTICATION RESPONSE	·
7	USS -> UE	SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call setup
8	UE -> USS	SECURITY MODE COMPLETE	·
9	UE -> USS	SETUP	
10	USS -> UE	CALL PROCEEDING	
11	USS -> UE	RADIO BEARER SETUP	To a supported channel type
12	UE -> USS	RADIO BEARER SETUP	
		COMPLETE	
13		ALERTING	
14	USS -> UE	CONNECT	As default message except contains Facility IE with contents as indicated in i) below
			Either A or B branch is taken
A15	UF -> USS	CONNECT ACKNOWLEDGE	Editor / Gr B Bratish to taken
A16	UE -> USS		As default message except contains Facility IE with
71.0	0_ / 000		contents as indicated in ii) below
B15	UE -> USS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B16	UE -> USS	CONNECT ACKNOWLEDGE	,
17			call duration 30 s after CAI information sent by USS
18		DISCONNECT	
19	USS -> UE		
20		RELEASE COMPLETE	
21		RRC CONNECTION RELEASE	All connections of RRC are released.
22	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Expected Sequence B:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> SS	CHANNEL REQUEST	
3	SS -> UE	IMMEDIATE ASSIGNMENT	
4	UE -> SS	CM SERVICE REQUEST	
5	SS -> UE	CM SERVICE ACCEPT	
6	UE -> SS	SETUP	
7	SS -> UE	CALL PROCEEDING	
8	SS -> UE	ASSIGNMENT COMMAND	To a supported channel type
9	UE -> SS	ASSIGNMENT COMPLETE	
10	SS -> UE	ALERTING	
11	SS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A12	UE -> SS	CONNECT ACKNOWLEDGE	
A13	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B12	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B13	UE -> SS	CONNECT ACKNOWLEDGE	·
14			call duration 30 s after CAI information sent by SS
15	UE -> SS	DISCONNECT	
16	SS -> UE	RELEASE	
17	UE -> SS	RELEASE COMPLETE	
18	SS -> UE	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents:

7) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

The values of the e-parameters within the parameter part of the Facility Information Element shall be set as below:

e-parameters:

parameter:	e1	e2	e3	e4	e5	e6	e7
value	10	10	1	Λ	Λ	Λ	Λ

Values shown in table are in the format and have units as in TS 22.024 [8], clause 3.

ii) FACILITY Information Element with **Return Result** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

6.4.3.5 Acceptance criteria

- 1) The UE shall terminate the call correctly 30 s after CAI was sent.
- 2) The value of ACM shall be 100 units.

6.4.4 Response codes of increase command of ACM

6.4.4.1 Definition and applicability

ACM has a maximum value in terms of coding, and an attempt by the Terminal to exceed that value by sending an INCREASE command shall result in an error message from the USIM. As the maximum of the ACM is equal to the maximum value of ACMmax, all current chargeable calls shall be terminated and no further calls may be made (except emergency calls).

6.4.4.2 Conformance requirement

The Terminal shall perform the increasing procedure, sending the amount to be increased.

The running accumulated charge shall be stored in the ACM of the USIM.

Where this charge cannot be stored in the UE, use of the telecommunications service shall be prevented.

At the time ACM exceeds it's maximum value, then all calls in progress, chargeable to the user, shall be terminated by the UE, once the chargeable interval determined by the CAI has elapsed, (except emergency calls).

When used the value '1C' shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.

References:

- TS 31.102 [4], clauses 4.2.9, 5.3.4 and Annex H.1;
- TS 22.086 [18], clauses 2.1 and 2.2.1.

6.4.4.3 Test purpose

- 1) To verify that the Terminal clears a charged call if the USIM indicates that the ACM cannot be increased.
- 2) To verify that the Terminal is able to handle other values than "1C" as SFI of EF_{ACM}.

6.4.4.4 Method of test

6.4.4.4.1 Initial conditions

The Terminal shall be connected to the USIM simulator, with all elementary files coded as default with the exception of:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available;

User controlled PLMN selector available;

Fixed dialling numbers available; The GSM Access available:

The Group Identifier level 1 and level 2 not available;

AoC available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xxxx xx11
 xxx1 xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xxx1

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{ACM} (Accumulated call meter)

Logically: (Maximum value - 10) units

Coding: B1 B2 B3

binary 1111 1111 1111 1111 1111 0101

The SFI of EF_{ACM} shall be set to "18".

EF_{ACMmax} (Accumulated call meter maximum)

Logically: (Maximum value - 2) units

Coding: B1 B2 B3 binary 1111 1111 1111 1111 1111 1101

The USS transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

6.4.4.4.2 Procedure

- a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS 34.108 [21], clause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC eparameters sent in a Facility IE in the CONNECT message, as given below. The UE returns the AoCC acknowledgement after reception of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the UE before or after the CONNECT ACKNOWLEDGE.
- b) After an interval has elapsed, the Terminal increments the ACM. When an INCREASE command is received, the USIM-simulator sends back the error "98 50".
- c) Conditions are reset to those described in the initial conditions. Steps a) and b) of the test are repeated, except that the error code sent by the USIM simulator at step b) is now "6F xx".
- d) Conditions are reset to those described in the initial conditions. Steps a) and b) of the test are repeated, except that the error code sent by the USIM simulator at step b) is now "65 81".

References:

- ETSI TS 102 221 [5], clause 10.2.1.

Maximum Duration of Test:

3 minutes.

Expected Sequence A:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2		RRC CONNECTION REQUEST	
3		RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP	
		COMPLETE	
4A		CM SERVICE REQUEST	
5	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity in step 8
6		AUTHENTICATION RESPONSE	
7	USS -> UE	SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call setup
8 9	UE -> USS	SECURITY MODE COMPLETE	
10	UE -> USS	SETUP	
11		CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUP	· ·
		COMPLETE	
14		ALERTING	
15	USS -> UE	CONNECT	As default message except contains Facility IE with contents as indicated in i) below
			Either A or B branch is taken
A16		CONNECT ACKNOWLEDGE	
A17	UE -> USS		As default message except contains Facility IE with contents as indicated in ii) below
B16	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B17	UE -> USS	CONNECT ACKNOWLEDGE	,
18			call duration 10s after CAI information sent by USS
19		DISCONNECT	
20	USS -> UE	_	
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Expected Sequence B:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> SS	CHANNEL REQUEST	
3	SS -> UE	IMMEDIATE ASSIGNMENT	
4	UE -> SS	CM SERVICE REQUEST	
5	SS -> UE	CM SERVICE ACCEPT	
6	UE -> SS	SETUP	
7		CALL PROCEEDING	
8		ASSIGNMENT COMMAND	To a supported channel type
9		ASSIGNMENT COMPLETE	
10		ALERTING	
11	SS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A12	UE -> SS	CONNECT ACKNOWLEDGE	
A13	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B12	UE -> SS	FACILITY	As default message except contains Facility IE with
			contents as indicated in ii) below
B13	UE -> SS	CONNECT ACKNOWLEDGE	
14			call duration 10s after CAI information sent by SS
15	UE -> SS	DISCONNECT	
16		RELEASE	
17		RELEASE COMPLETE	
18	SS -> UE	CHANNEL RELEASE	The main signalling link is released.

Specific Message Contents:

7) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

The values of the e-parameters within the parameter part of the Facility Information Element shall be set as below:

e-parameters:

parameter:	e1	e2	е3	e4	e5	е6	е7
value	20	10	1	0	0	0	0

Values shown in table are in the format and have units as in TS 22.024 [8], clause 3.

ii) FACILITY Information Element with **Return Result** component type as defined in TS 24.080 [17], clause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], clause 31.6.4.

6.4.4.5 Acceptance criteria

- 1) The UE shall terminate the call correctly 10 s after CAI was sent.
- 2) In each of the three cases, as described in steps b), c) and d) of the procedure, the UE shall terminate the call correctly when it receives an indication from the USIM that the ACM cannot be incremented.

7 PLMN related tests

7.1 FPLMN handling

7.1.1 Adding FPLMN to the Forbidden PLMN list

7.1.1.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

The registration attempts initiated by the 3G UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

7.1.1.2 Conformance requirement

In case of a 2G terminal:

1) In automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATE if it receives a BCCH containing a LAI that is not indicated in the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 2) After receipt of a LOCATION UPDATING REJECT message with the cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 3) After call termination the USIM shall contain the correct Ciphering Key Sequence Number.

Reference:

- TS 31.102 [4], clauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [19], clause 10.1.
- 4) After call termination the USIM shall contain the correct TMSI and location information received by the UE.

Reference:

- TS 31.102 [4], clauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [19], clause 10.1.

In case of a 3G terminal:

- 1) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. In automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST during registration on CS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF FPLMN in the USIM or
 - II. in automatic PLMN selection mode the UE shall only attempt a ATTACH REQUEST during registration on PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF_{FPLMN} in the USIM or
 - III. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 2) Depending on which domain the UE is going to be on, one of the following requirements should be fulfilled:
 - I. After receipt of a LOCATION UPDATING REJECT message during registration on CS with the cause "PLMN not allowed" the Terminal shall update the EF FPLMN in the USIM or.
 - II. after receipt of a ATTACH REJECT message during registration on PS with the cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM or
 - III. after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 3.2.2 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 3) After call termination the USIM shall contain the correct Key Set Identifier.
- 4) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. after registration on CS the USIM shall contain the correct TMSI and location information received by the UE or
 - II. after registration on PS the USIM shall contain the correct P-TMSI and routing information received by the UE or
 - III. after registration on CS/PS the USIM shall contain the correct TMSI, P-TMSI, location information and routing information received by the UE.

Reference:

- TS 31.102 [4], clauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [6], clause 10.1.
- 5) After call termination the USIM shall contain the correct TMSI and location information received by the UE.

Reference:

- TS 31.102 [4], clauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [6], clause 10.1.

7.1.1.3 Test purpose

In case of a 2G terminal:

- 1) To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that the EF_{FPLMN} is correctly updated by the Terminal after receipt of a LOCATION UPDATING REJECT message with cause "PLMN not allowed".
- 3) To verify that the EF_{LOCI} has been correctly updated by the Terminal.

In case of a 3G terminal:

- To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that after receipt of a
 - I. LOCATION UPDATING REJECT message with cause "PLMN not allowed" during registration on CS the Terminal correctly updates EF_{FPLMN} and EF_{Keys}, or
 - II. ATTACH REJECT message with cause "PLMN not allowed" during registration on PS the Terminal correctly updates EF_{FPLMN} and EF_{KeysPS}, or
 - III. LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration on CS/PS the Terminal correctly updates EF_{FPLMN}, EF_{Keys} and EF_{KeysPS}.
- 3) To verify that
 - I. the EF_{LOCI} has been correctly updated by the Terminal during registration on CS or.
 - II. the EF_{PSLOCI} has been correctly updated by the Terminal during registration on PS or.
 - III. the EF_{LOCI} and EF_{PSLOCI} have been correctly updated by the Terminal during registration on CS/PS.
- 4) (void)

7.1.1.4 Method of test

7.1.1.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05. (only for UTRAN cell)

- Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC is used with the following exception:

EF_{IMSI} (IMSI)

Logically: 2460)81111111111
-----------------	--------------

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex									

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 007 LAI-LAC: 0000

TMSI: "32547698"

B8 Coding: В1 B2 B3 B4 B5 B6 B7 B9 B10 **B11** 32 54 76 98 32 74 00 00 00 FF 00 Hex

EFPSLOCI (Packet Switched location Information)

Logically: RAI-MCC: 234

RAI-MNC: 007 RAI-LAC: 0000 RAI-RAC: 05

P-TMSI: "32547698"

P-TMSI signature value: "112233"

Coding: В1 B2 ВЗ B4 **B**5 В6 B7 B8 В9 B10 B11 Hex 32 54 76 98 11 22 33 32 74 00 00

B12 B13 B14 00 05 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 02

Ciphering Keys CK: undefined Integrity Keys IK: undefined

B2 **B33** Coding: **B**3 B18 **B31 B32** В1 B16 **B17** Hex 02 XX XX XX XX XX XX ... XX XX

EF_{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)

Logically: Key Set Identifier KSI: 02

Ciphering Keys CK: undefined Integrity Keys IK: undefined

B2 Coding: B16 **B33** В1 B3 ... B17 **B18** B31 B32 02 Hex XX XX XX XX XX XX XX XX

In case of a Terminal accessing UTRAN "Expected Sequence A" shall be performed and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.1.1.4.2 Procedure

Expected Sequence A:

a) The UE is powered on.

b) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The USS then resumes RF output on the BCCH.

c) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The USS then resumes RF output on the BCCH.

d) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The USS then resumes RF output on the BCCH.

e) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC):234/007/0001

RAI (MCC/MNC/LAC/RAC): 234/007/0001/05

The USS then resumes RF output on the BCCH.

- f) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS performs authentication and starts integrity protection, sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
 - II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS performs authentication and starts integrity protection, sends ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - III.During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS performs authentication and starts integrity protection, sends LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/008/0001

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

The USS then resumes RF output on the BCCH.

- h) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- i) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with:

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

- j) After passing through the authentication procedure and after receipt of
 - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- k) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) The SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The SS then resumes RF output on the BCCH.

c) The SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The SS then resumes RF output on the BCCH.

d) The SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The SS then resumes RF output on the BCCH.

e) The SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC):234/007/0001

The SS then resumes RF output on the BCCH.

- f) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- g) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by CHANNEL RELEASE.

The SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC):234/008/0001

The SS then resumes RF output on the BCCH.

- h) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- i) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC): 234/008/0001

TMSI: "43658709"

to the UE.

- j) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- k) The UE is soft powered down.

7.1.1.5 Acceptance criteria

- 1) After each of the steps a) to d) the UE shall not attempt a LOCATION UPDATING and not a ATTACH procedure.
- 2) After step f) the 2G UE shall send LOCATION UPDATING REQUEST to the SS and a 3G terminal shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.

2a) After step g) a terminal accessing UTRAN shall update

I. during the rejected registration attempt on CS or

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 07 (no key available)

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: B1 B2 **B3** B16 B17 B18 B31 B32 **B33** Hex 07 Xx XXXX XX XX XX

II. during the rejected registration attempt on PS or

EF_{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)

Logically: Key Set Identifier KSIPS: 07 (no key available)

Ciphering Keys CKPS: xx Integrity Keys IKPS: xx

B32 **B33** Coding: **B**1 **B**3 B16 B17 **B18 B31** R₂ Hex 07 XXΧx XX XX XX XX XX XX

III. during the rejected registration attempt on CS/PS.

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 07 (no key available)

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: B1 B2 B3 ... B16 B17 B18 ... B31 B32 B33 Hex 07 xx xx ... xx xx xx xx ... xx xx Xx

EF_{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)

Logically: Key Set Identifier KSIPS: 07 (no key available)

Ciphering Keys CKPS: xx Integrity Keys IKPS: xx

B33 Codina: **B1** B2 **B3** B16 B17 B18 B31 **B32** Hex 07 Xx XX XX . . .

- 3) After step h) the 2G UE shall send LOCATION UPDATING REQUEST to the SS and a 3G terminal shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 4) After step i) the 2G UE shall respond with TMSI REALLOCATION COMPLETE to the SS and a 3G terminal shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.

5) After step k) the USIM shall contain the following values:

EFFPLMN (Forbidden PLMNs)

Logically: PLMN1: 234 002 (MCC MNC)

PLMN2: 234 003 PLMN3: 234 004 PLMN4: 234 005 PLMN5: 234 006 PLMN6: 234 007

Coding: B10 B12 B1 B2 **B3** B4 B5 B6 **B7 B8 B9** B11 Hex 32 24 00 32 34 00 32 44 00 32 54 00

B13 B14 B15 B16 B17 B18 32 64 00 32 74 00

For 2G terminals and 3G terminals supporting (CS and PS) or (CS only):

EFLOCI (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 008

TMSI: "43658709"

Coding: В3 B11 В1 B2 B4 B5 B6 B7 B8 B9 B10 43 87 09 32 84 00 65 00 Hex XX XX XX

For 3G terminals supporting (CS and PS) or (PS only):

EFPSLOCI (Location Information)

Logically: RAI-MCC: 234

RAI-MNC: 008

P-TMSI: "43658709"

Coding: В1 B2 В3 **B**5 B6 B7 **B8** B10 B11 B4 B9 Hex 43 65 87 09 32 84 00 XXXX XXXX

Coding: B12 B13 B14 Hex xx xx 00

In case of a Terminal accessing GERAN:

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 07 (not available)

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: В1 B2 **B32 B33 B**3 **B16** B17 **B18 B31** Hex 07 Xx XX XX XX XX XX XX XX

7.1.2 UE updating forbidden PLMNs

7.1.2.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM provides storage for at least 4 entries, and is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list

of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

The registration attempts initiated by the 3G UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

7.1.2.2 Conformance requirement

In case of a 2G terminal:

After the receipt of a LOCATION UPDATING REJECT message with the cause "PLMN not allowed" the UE shall update the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 3.2.2.4.
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.

In case of a 3G terminal:

Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:

- I. After the receipt of a LOCATION UPDATING REJECT message during registration on CS with the cause "PLMN not allowed" the UE shall update the EF FPLMN in the USIM or
- II. after receipt of a ATTACH REJECT message during registration on PS with the cause "PLMN not allowed" the Terminal shall update the EF FPLMN in the USIM or
- III. after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF FPLMN in the USIM.

Reference:

- TS 22.011 [6], clause 3.2.2.4.
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.

7.1.2.3 Test purpose

To verify that the UE correctly updates the EF_{FPLMN}, i.e. fill up existing gaps in the elementary file before overwriting any existing entries.

7.1.2.4 Method of test

7.1.2.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 234/002/0001.
- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05 (only for UTRAN cell)
- Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC is used with the following exception:

EFFPLMN (Forbidden PLMNs)

Logical	ly:	PLMN1 PLMN2 PLMN3 PLMN4 PLMN5	2: en 3: 23 4: 23 5: 23	4 001 (Mapty 4 003 4 004 4 005 4 006	ICC MN	C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 FF	B5 FF	B6 FF	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.1.2.4.2 Procedure

Expected Sequence A:

- a) The UE is powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS performs authentication and starts integrity protection, sends LOCATION UPDATING REJECT to the UE with the cause "PLMN not allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS performs authentication and starts integrity protection, sends ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS performs authentication and starts integrity protection, sends LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- d) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by CHANNEL RELEASE.
- d) The UE is soft powered down.

7.1.2.5 Acceptance criteria

- 1) After step b) the 2G UE shall send LOCATION UPDATING REQUEST to the SS and the 3G terminal shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 2) After step d) the USIM shall contain:

EF_{FPLMN} (Forbidden PLMNs)

Logical	ly:	PLMN1 PLMN2 PLMN3 PLMN4 PLMN5 PLMN6	2: 23 3: 23 4: 23 5: 23	4 001 (M 4 002 4 003 4 004 4 005 4 006	ICC MNO	C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 24	B6 00	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

or

EF_{FPLMN} (Forbidden PLMNs)

Logicall	y:	PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:	234 234 234 234	4 001 (MO 4 003 4 004 4 005 4 006 4 002	CC MNC	⁽²⁾						
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00
	B13 32	B14 64	B15 00	B16 32	B17 24	B18 00						

7.1.3 UE deleting forbidden PLMNs

7.1.3.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

The registration attempts initiated by the 3G UE depends on Ues capabilities and can be one of the following:

- I. registration procedures for Ues supporting CS or
- II. registration procedures for Ues supporting PS or
- III. registration procedures for Ues supporting CS/PS

7.1.3.2 Conformance requirement

In case of a 2G terminal:

- In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt to a PLMN which is in the forbidden PLMN list.
- TS 22.011 [6], clause 3.2.2.2.
- 2) After receipt of LOCATION UPDATING ACCEPT the UE shall delete the forbidden PLMN from the forbidden PLMN list.
- TS 22.011 [6], clause 3.2.2.4.

In case of a 3G terminal:

- 1) Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:
 - I. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt during registration on CS to a PLMN which is in the forbidden PLMN list or
 - II. In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration on PS to a PLMN which is in the forbidden PLMN list or
 - III. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING and/or ATTACH attempt during registration on CS/PS to a PLMN which is in the forbidden PLMN list.
 - TS 22.011 [6], clause 3.2.2.2.
 - TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 2) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. After receipt of LOCATION UPDATING ACCEPT message during registration on CS the UE shall delete the forbidden PLMN from the forbidden PLMN list OR
 - II. After receipt of ATTACH ACCEPT message during registration on PS the UE shall delete the forbidden PLMN from the forbidden PLMN list or
 - III. After receipt of LOCATION UPDATING ACCEPT and/or ATTCH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
 - TS 22.011 [6], clause 3.2.2.4.

7.1.3.3 Test purpose

- 1) To verify that the 2G UE is able to perform a LOCATION UPDATING on a forbidden PLMN in manual PLMN selection mode or to verify that the 3G UE is able to perform
 - I. a LOCATION UPDATING REQUEST during registration on CS on a forbidden PLMN in manual PLMN selection mode or
 - II. a ATTACH REQUEST during registration on PS on a forbidden PLMN in manual PLMN selection mode or
 - III. a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS on a forbidden PLMN in manual PLMN selection mode.
- 2) To verify that the UE after a successful registration attempt deletes the PLMN in the EF_{FPLMN} on the USIM.

7.1.3.4 Method of test

7.1.3.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/005/0001.

- RAI (MCC/MNC/LAC/RAC): 234/005/0001/05 (only for UTRAN cell).

- Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty

PLMN2: empty PLMN3: empty PLMN4: empty

PLMN5: 234 005 (MCC MNC)

PLMN6: empty

Coding: B1 B2 **B3** B4 **B5** B6 B7 **B8** B9 **B10** B11 B12 FF FF FF FF FF FF FF FF FF Hex FF FF FF B13 **B14 B15 B16 B17 B18** 32 54 00 FF FF FF

The UICC is installed into the Terminal and the UE is set to manual PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.1.3.4.2 Procedure

Expected Sequence A:

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with to the UE:

LAI (MCC/MNC/LAC):234/005/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with to the UE:

RAI (MCC/MNC/LAC/RAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

- e) After passing through the authentication procedure and after receipt of
 - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- f) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- d) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):234/005/0001

TMSI: "12345678"

to the UE.

- e) After receipt of TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE.
- f) The UE is soft powered down.

7.1.3.5 Acceptance criteria

- 1) After step c) the 2G UE shall send LOCATION UPDATING REQUEST to the SS and the 3G terminal shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.

- 2) After step d) the 2G UE shall respond with TMSI REALLOCATION COMPLETE and the 3G terminal shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 3) After step f) the USIM shall contain the following values:

EF_{FPLMN} (Forbidden PLMNs)

Logical	lly:	PLMN PLMN PLMN PLMN PLMN PLMN	2: en 3: en 4: en 5: en	npty npty npty npty npty npty								
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 FF	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF						

For 2G terminals and 3G terminals supporting CS only or CS/PS:

EFLOCI (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 005

TMSI: "12345678"

Coding: В1 B2 ВЗ В4 **B**5 В6 В7 B8 В9 B10 B11 12 Hex 34 56 78 32 54 00 ХX 00

For UEs supporting PS only or CS/PS:

EFPSLOCI (Location Information)

Logically: RAI-MCC: 234

RAI-MNC: 005 P-TMSI: "12345678"

Coding: В1 B2 В3 **B**5 B6 В7 **B8 B9** B10 B11 B4 Hex 12 34 56 78 XX ХX ΧХ 32 54 00 XX

Coding: B12 B13 B14 Hex xx xx 00

7.1.4 Adding FPLMN to the forbidden PLMN list when accessing E-UTRAN

7.1.4.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list

of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

7.1.4.2 Conformance requirement

 In automatic PLMN selection mode the UE shall only attempt a AttachRequest during registration on E-UTRAN/EPS if it receives a BCCH containing a PLMN (MCC,MNC) that is not indicated in the EF_{FPLMN} in the USIM

Reference:

- TS 22.011 [6], clause 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- 2) After receipt of an *AttachReject* message during registration on E-UTRAN/EPS with the EMM cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM.

Reference:

- TS 22.011 [6], clause 3.2.2 2;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7
- 3) After receipt of an *AttachReject* message during registration on E-UTRAN/EPS with the EMM cause "PLMN not allowed" the Terminal shall update the EF_{EPSLOCI} in the USIM.

Reference:

- TS 24.301 [26], clause 5.5.1.2.5;
- TS 31.102 [4], clauses 5.1.1 and 4.2.9.1.
- 3) After registration on E-UTRAN/EPS the USIM shall contain the correct GUTI and TAI received by the UE.

Reference:

- TS 31.102 [4], clauses 5.1.2 and 4.2.9.1;
- TS 21.111 [6], clause 10.1.

7.1.4.3 Test purpose

- 1) To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that the EF_{FPLMN} is correctly updated by the Terminal after receipt of a *AttachReject* message with cause "PLMN not allowed" during registration.
- 3) To verify that the EF_{EPSLOCI} has been correctly updated by the Terminal during registration.

7.1.4.4 Method of test

7.1.4.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 234/002/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 234/002/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.1.4.4.2 Procedure

- a) The UE is powered on.
- b) The E-USS/NB-SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The E-USS/NB-SS then resumes RF output on the BCCH.

c) The E-USS/NB-SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The E-USS/NB-SS then resumes RF output on the BCCH.

d) The E-USS/NB-SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The E-USS/NB-SS then resumes RF output on the BCCH.

e) The E-USS/NB-SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

TAI (MCC/MNC/TAC):234/007/0001

The E-USS/NB-SS then resumes RF output on the BCCH.

- f) After receipt of an *RRCConnectionRequest/RRCConnectionRequest-NB* from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- g) During registration and after receipt of an *AttachRequest* from the UE, the E-USS/NB-SS performs authentication and starts NAS integrity protection, sends *AttachReject* to the UE with cause "PLMN Not Allowed", followed by *RRCConnectionRelease/RRCConnectionRelease-NB*.
- h) The E-USS/NB-SS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

TAI (MCC/MNC/TAC): 234/008/0001

The E-USS/NB-SS then resumes RF output on the BCCH.

- h) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- i) During registration and after receipt of an *AttachRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* to the UE with:

TAI (MCC/MNC/TAC):234/008/0001

GUTI: "23400800010266436587"

- j) After receipt of *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- k) The UE is soft powered down.

7.1.4.5 Acceptance criteria

- 1) After each of the steps a) to d) the terminal shall not attempt an Attach procedure.
- 2) After step f) the terminal shall send *AttachRequest* during registration.
- 3) After step h) the terminal shall send *AttachRequest* during registration.
- 4) After step i) the terminal shall respond with *AttachComplete* during registration.
- 5) After step k) the USIM shall contain the following values:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: 234 002 (MCC MNC)

PLMN2: 234 003 PLMN3: 234 004 PLMN4: 234 005 PLMN5: 234 006 PLMN6: 234 007

Coding: B1 B2 **B**3 R4 **B**5 **B6** B7 R8 R9 B10 **B11** B12 Hex 32 24 00 32 34 00 44 00 32 54 00 B13 B14 B15 **B16 B17 B18** 32 64 00 32 74 00

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 23400800010266436587

Last visited registered TAI: 234/008/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	32	84	00	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	32	84	00	00	01	00				

7.1.5 UE updating forbidden PLMNs when accessing E-UTRAN

7.1.5.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM provides storage for at least 4 entries, and is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

7.1.5.2 Conformance requirement

After receipt of a *AttachReject* message during registration with the cause "PLMN not allowed" the Terminal shall update the EF FPLMN in the USIM.

Reference:

- TS 22.011 [6], clause 3.2.2.4.

- TS 31.102 [4], clauses 5.1.1 and 5.2.7.

7.1.5.3 Test purpose

To verify that the UE correctly updates the EF_{FPLMN}, i.e. fill up existing gaps in the elementary file before overwriting any existing entries.

7.1.5.4 Method of test

7.1.5.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 234/002/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 234/002/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logical	ly:	PLMN1 PLMN2 PLMN3 PLMN4 PLMN5	2: em 3: 23 4: 23 5: 23	4 001 (Mapty 4 003 4 004 4 005 4 006	ICC MNO	C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 FF	B5 FF	B6 FF	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.1.5.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a *RRCConnectionRequest/RRCConnectionRequest-NB* from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS performs authentication and starts NAS integrity protection, sends *AttachReject* to the UE with cause "PLMN Not Allowed", followed by *RRCConnectionRelease/RRCConnectionRelease-NB*.
- d) The UE is soft powered down.

7.1.5.5 Acceptance criteria

- 1) After step b) the terminal shall send AttachRequest during registration.
- 2) After step d) the USIM shall contain:

EFFPLMN (Forbidden PLMNs)

Logical	ly:	PLMN1 PLMN2 PLMN3 PLMN4 PLMN5 PLMN6	2: 23 3: 23 4: 23 5: 23	4 001 (N 4 002 4 003 4 004 4 005 4 006	ICC MNO	C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 24	B6 00	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

or

EF_{FPLMN} (Forbidden PLMNs)

Logicall	y:	PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:	234 234 234 234	1 001 (M0 1 003 1 004 1 005 1 006 1 002	CC MNC)						
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00
B13 32		B14 64	B15 00	B16 32	B17 24	B18 00						

7.1.6 UE deleting forbidden PLMNs when accessing E-UTRAN

7.1.6.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

7.1.6.2 Conformance requirement

- a) In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration to a PLMN which is in the forbidden PLMN list or
- TS 22.011 [6], clause 3.2.2.2.
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.
- b) After receipt of *AttachAccept* message during registration the UE shall delete the forbidden PLMN from the forbidden PLMN list or
- TS 22.011 [6], clause 3.2.2.4.

7.1.6.3 Test purpose

- 1) To verify that the terminal is able to perform an *AttachRequest* during registration on a forbidden PLMN in manual PLMN selection mode.
- 2) To verify that the UE after a successful registration attempt deletes the PLMN in the EF_{FPLMN} on the USIM.

7.1.6.4 Method of test

7.1.6.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 234/005/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 234/005/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty PLMN2: empty PLMN3: empty PLMN4: empty 234 005 (MCC MNC) PLMN5: PLMN6: empty Coding: B2 В3 **B5 B6** B7 **B9** B11 B12 В1 FF FF FF FF

FF Hex FF FF FF FF FF FF FF B13 **B14 B15 B16 B17 B18** FF FF 32 54 00 FF

The UICC is installed into the Terminal and the UE is set to manual PLMN selection mode.

7.1.6.4.2 Procedure

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a *RRCConnectRequest/RRCConnectionRequest-NB* from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- d) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):234/005/0001

GUTI: "23400500010266436587"

- e) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- f) The UE is soft powered down.

7.1.6.5 Acceptance criteria

- 1) After step c) the terminal shall send AttachRequest during registration
- 2) After step d) the terminal shall respond with AttachComplete during registration
- 3) After step f) the USIM shall contain the following values:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty

PLMN2: empty PLMN3: empty PLMN4: empty PLMN5: empty PLMN6: empty

Coding: B1 В3 **B**5 В9 B10 B11 B12 FF Hex

B13 B14 B15 B16 B17 B18 FF FF FF FF FF

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 23400500010266436587

Last visited registered TAI: 234/005/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	32	54	00	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	32	54	00	00	01	00				

7.1.7 Updating the Forbidden PLMN list after receiving non-integrity protected reject message – UTRAN

7.1.7.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

7.1.7.2 Conformance requirement

After receipt of a not integrity-protected LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM thereafter that VPLMN will not be accessed by the MS in automatic mode:

- if the MS is not configured to use timer T3245, and the MS maintains a list of PLMN-specific attempt counters and the value of the PLMN-specific attempt counter for that VPLMN is equal to the MS implementation specific maximum value or;
- if the MS is not configured to use timer T3245, and the MS is not maintain a list of PLMN-specific attempt counters

Reference:

- TS 23.122 [31], clause 3.1.
- TS 22.011 [6], clause 3.2.2 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.

7.1.7.3 Test purpose

To verify in automatic PLMN selection mode and after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration that the UE correctly updates EF_{FPLMN}, in the following cases:

- if the UE maintains a list of PLMN-specific attempt counters, and the value of the PLMN-specific attempt counter for that VPLMN is equal to the MS implementation specific maximum value.
- if the UE does not maintain a list of PLMN-specific attempt counters.

To verify that the UE correctly updates the EF_{FPLMN}, i.e. fill up existing gaps in the elementary file before overwriting any existing entries.

7.1.7.4 Method of test

7.1.7.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

EFFPLMN (Forbidden PLMNs)

Logically	<i>y</i> :	PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:	emp 234 234 234	,	CC MNC)						
Coding: Hex	B1 32 B13 32	B2 14 B14 54	B3 00 B15 00	B4 FF B16 32	B5 FF B17 64	B6 FF B18 00	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00

7.1.7.4.2 Procedure

- a) The UE is powered on.
- b) Depending on which domain the UE is going to be registered on, the UE attempts to perform CS, PS or CS/PS registration to the USS.
- c) During registration and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS sends a not integrity-protected LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- d)) if the UE supports A.1/38, perform step e) after the expiry of timer T3247, otherwise perform step f).
- e) Using the settings declared in table B.1/AER006, repeat step c) d) until the PLMN-specific attempt counters has reached the maximum value for that VPLMN.
- f) The UE is powered down

7.1.7.5 Acceptance criteria

- 1) After step b) the terminal shall send a LOCATION UPDATING REQUEST and/or *AttachRequest* during registration.
- 2) After steps c) the UE shall start the timer T3247 before the next registration attempt.
- 3) Depending on the support of A.1/38, either after step d) or step e), the EF_{FPLMN} in the USIM shall be updated as specified below.

EF_{FPLMN} (Forbidden PLMNs)

Logically	y:	PLMN1:	234	001 (M	CC MNC	()						
		PLMN2:	234	002								
		PLMN3:	234	003								
		PLMN4:	234	004								
		PLMN5:	234	005								
		PLMN6:	234	006								
Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	32	24	00	32	34	00	32	44	00
	D40	D4.4	D.4.5	D40	D.4.7	D40						
	B13	B14	B15	B16	B17	B18						
	32	54	00	32	64	00						

or

EF_{FPLMN} (Forbidden PLMNs)

Logically	y:	PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:	234 234 234 234	4 001 (Mo 4 003 4 004 4 005 4 006 4 002	CC MNC)						
Coding: Hex	B1 32 B13 32	B2 14 B14 64	B3 00 B15 00	B4 32 B16 32	B5 34 B17 24	B6 00 B18 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00

7.1.8 Updating the Forbidden PLMN list after receiving non-integrity protected reject message – E-UTRAN

7.1.8.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

7.1.8.2 Conformance requirement

After receipt of a not integrity-protected ATTACH REJECT message during registration with the cause "PLMN not allowed" the Terminal shall update the EF_{FPLMN} in the USIM thereafter that VPLMN will not be accessed by the MS in automatic mode:

- if the MS is not configured to use timer T3245, and the MS maintains a list of PLMN-specific attempt counters and the value of the PLMN-specific attempt counter for that VPLMN is equal to the MS implementation specific maximum value or;
- if the MS is not configured to use timer T3245, and the MS is not maintain a list of PLMN-specific attempt counters

Reference:

- TS 23.122 [31], clause 3.1.
- TS 22.011 [6], clause 3.2.2 2.3;
- TS 31.102 [4], clauses 5.1.1 and 5.2.7.

7.1.8.3 Test purpose

To verify in automatic PLMN selection mode and after receipt of *ATTACH REJECT* message with cause "PLMN not allowed" during registration that the UE correctly updates EF_{FPLMN}, for the following cases:

- if the UE maintains a list of PLMN-specific attempt counters, and the value of the PLMN-specific attempt counter for that VPLMN is equal to the MS implementation specific maximum value.
- if the UE does not maintain a list of PLMN-specific attempt counters.

To verify that the UE correctly updates the EF_{FPLMN}, i.e. fill up existing gaps in the elementary file before overwriting any existing entries.

7.1.8.4 Method of test

7.1.8.4.1 Initial conditions

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 234/002/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 234/002/0001.
- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

<i>C</i> ,		PLMN1:	234	001 (M	CC MNC	5)						
		PLMN2:	emj	oty								
		PLMN3:	234	003								
		PLMN4:	234	004								
		PLMN5:	234	005								
		PLMN6:	234	006								
Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	FF	FF	FF	32	34	00	32	44	00
	D 4 0	5.44	5.45	D.4.0	D.1-	D.4.0						
	B13	B14	B15	B16	B17	B18						
	32	54	00	32	64	00						

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.1.8.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a *RRCConnectionRequest/RRCConnectionRequest-NB* from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS sends non-integrity protected *AttachReject* message to the UE with cause "PLMN Not Allowed", followed by *RRCConnectionRelease/RRCConnectionRelease-NB*.
- d)) if the UE supports A.1/38, perform step e) after the expiry of timer T3247, otherwise perform step f).
- e) Using the settings declared in table B.1/AER006, repeat step c) d) until the PLMN-specific attempt counters has reached the maximum value for that VPLMN.
- f) The UE is powered down.

7.1.8.5 Acceptance criteria

- 1) After step b) the terminal shall send AttachRequest during registration.
- 2) After steps c) the UE shall start the timer T3247 before the next registration attempt.
- 3) Depending on the support of A.1/38, either after step d) or step e), the EF_{FPLMN} in the USIM shall be updated as specified below.

EF_{FPLMN} (Forbidden PLMNs)

Logically	y:	PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:	234 234 234 234	1 001 (Mo 1 002 1 003 1 004 1 005 1 006	CC MNC)						
Coding: Hex	B1 32 B13 32	B2 14 B14 54	B3 00 B15 00	B4 32 B16 32	B5 24 B17 64	B6 00 B18 00	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00

or

EFFPLMN (Forbidden PLMNs)

Logicall	y:	PLMN1:	234	4 001 (M	CC MNC	2)						
		PLMN2:	234	1 003								
		PLMN3:	234	1 004								
		PLMN4:	234	1 005								
		PLMN5:	234	1 006								
		PLMN6:	234	1 002								
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	32	34	00	32	44	00	32	54	00
	D.10	544	545	D.10	5.4-	D.10						
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	24	00						

7.2 User controlled PLMN selector handling

7.2.1 UE updating the User controlled PLMN selector list

7.2.1.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of PLMNs may be performed by the subscriber.

7.2.1.2 Conformance requirement

The UE shall correctly replace the selected UPLMN in the User controlled PLMN selector list.

- TS 31.102 [4], clause 5.3.6.

7.2.1.3 Test purpose

To verify that the UE correctly updates the $EF_{PLMNwACT}$.

7.2.1.4 Method of test

7.2.1.4.1 Initial conditions

No USS/SS is required for this test.

The default UICC is used.

The UICC is installed into the Terminal and the UE is powered on.

7.2.1.4.2 Procedure

- a) The user shall initiate an MMI dependent procedure to change the second UPLMN in the User controlled PLMN selector list to MCC/MNC of 567/02, the ACT identifier shall set to UTRAN only.
- b) The UE is soft powered down.

7.2.1.5 Acceptance criteria

After step b) the USIM shall contain the following values:

EF_{PLMNwACT} (UPLMN Selector)

Logically: 1st PLMN: 244 081 (MCC MNC) 1st ACT: **UTRAN** 2nd PLMN: 567 02 2nd ACT **UTRAN** 3rd PLMN: 244 082 3rd ACT **UTRAN** 244 082 4th PLMN: 4th ACT **GSM** 5th PLMN: 244 003 5th ACT **UTRAN** 6th PLMN: 244 004 6th ACT **UTRAN** 7th PLMN: 244 005 7th ACT **UTRAN** 8th PLMN: 244 006 $8^{th} ACT$ **UTRAN** 9th PLMN: 244 007

		10 th A 11 th I 11 th A	PLMN: ACT PLMN: ACT PLMN:	UTRA 244 00 UTRA 244 00 UTRA 244 01 UTRA	08 .N 09 .N .0										
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	65	F7	20	80	00	42	24	80	80	00
	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	42	24	80	00	80	42	34	00	80	00	42	44	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
	42	54	00	80	00	42	64	00	80	00	42	74	00	80	00
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	80	00	42	94	00	80	00	42	04	10	80	00

7.2.2 UE recognising the priority order of the User controlled PLMN selector list with the same access technology.

7.2.2.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{PLMNwACT}. Update and deletion of UPLMNs may be performed by the subscriber by the use of the PIN.

The registration attempts initiated by the terminal accessing UTRAN depends on terminal's capabilities and can be one of the following:

- I. registration procedures for Ues supporting CS or
- II. registration procedures for Ues supporting PS or
- III. registration procedures for Ues supporting CS/PS

7.2.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority order of the UPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2.

7.2.2.3 Test purpose

To verify that the UPLMN with the higher priority (defined by its position in $EF_{PLMNWACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection.

7.2.2.4 Method of test

7.2.2.4.1 Initial conditions

The USS (in case of a Terminal accessing UTRAN)/SS (in case of a Terminal accessing a GERAN) transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/033/0001.

- RAI (MCC/MNC/LAC/RAC): 244/033/0001/05 (only for UTRAN cell).

Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/034/0001.

- RAI (MCC/MNC/LAC/RAC): 244/034/0001/05 (only for UTRAN cell).

Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC is used with the following exception:

EF_{PLMNwACT} (UPLMN Selector with Access Technology)

Logical	lly:	1 st PL 1 st AC 2 nd PI 2 nd Ac 3 rd PI 3 rd AC 3 rd PI 3 rd Al	CT: LMN: CT LMN: CT	UTRA 244 08 GSM 244 08 UTRA 244 08	1 2 N	C MNC)									
		10 th A 11 th P 11 th A	LMN: CT LMN: CT PLMN: ACT PLMN: ACT PLMN:	244 03 GSM 244 03 GSM 244 00 UTRA 244 03 UTRA	3 8 N 4 N 3										
Coding: Hex	B1 42 B16	B2 14 B17	B3 80 B18	B4 80 B19	B5 00 B20	B6 42	B7 14	B8 80	B9 00	B10 80	B11 42	B12 24	B13 80	B14 80	B15 00
	42	24	80	00	80										
						B36 42	B37 44	B38 30	B39 00	B40 80	B41 42	B42 34	B43 30	B44 00	B45 80
	B46 42	B47 84	B48 00	B49 80	B50 00	B51 42	B52 44	B53 30	B54 80	B55 00	B56 42	B57 34	B58 30	B59 80	B60 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.2.2.4.2 Procedure

Expected Sequence A:

a) The UE is powered on.

- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/034 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC): 244/034/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with the following values:

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE with some of the following values:

LAI (MCC/MNC/LAC): 244/034/0001

TMSI:"34567890"

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After passing through the authentication procedure and after receipt of
 - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/034/0001

TMSI: "34567890"

to the UE

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The UE is soft powered down.

7.2.2.5 Acceptance criteria

- 1) After step a) the UE accessing a GERAN shall send CHANNEL REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/034 to the SS and the UE accessing UTRAN shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/034 to the USS.
- 2) After step b) the UE accessing a GERAN shall send LOCATION UPDATING REQUEST to the SS and the UE accessing UTRAN shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST to the USS during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE accessing a GERAN shall respond with TMSI REALLOCATION COMPLETE and the UE accessing UTRAN shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) After step e) the USIM shall contain the following values:

For UEs accessing GERAN and UEs accessing UTRAN and supporting (CS and PS) or (CS only):

EFLOCI (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 034

TMSI: "34567890"

Coding: **B**1 **B2 B**3 B4 B5 **B6 B**7 **B8 B9** B10 B11 Hex 34 56 78 90 42 44 30 00 XX ХX XX

For UEs accessing UTRAN and supporting (CS and PS) or (PS only):

EFPSLOCI (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 034 P-TMSI: "34567890"

Coding: В1 B2 В3 B4 **B**5 B6 B7 **B8** B9 B10 B11 Hex 34 56 78 90 XX XX XX42 44 30 XX

Coding: B12 B13 B14 Hex xx xx 00

7.2.3 UE recognising the priority order of the User controlled PLMN selector list using an ACT preference.

7.2.3.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred PLMNs of the User on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of User controlled PLMNs may be performed by the subscriber by the use of the PIN.

7.2.3.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of the ACT identifier in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clauses 4.2.5 and 5.1.2.

7.2.3.3 Test purpose

To verify that the ACT with the higher priority (defined by its position in $EF_{PLMNwACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection.

7.2.3.4 Method of test

7.2.3.4.1 Initial conditions

For this test both a GSM SS and an UTRAN USS is needed.

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

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- Access control: unrestricted.

The UMTS USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- RAI (MCC/MNC/LAC/RAC): 244/082/0001/05.

- Access control: unrestricted.

The default UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.2.3.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE on the GSM-cell related to the BCCH transmitting MCC/MNC 244/081, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/081/0001

TMSI: "34567890"

and/or ATTACH ACCEPT with:

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The UE is soft powered down.

7.2.3.5 Acceptance criteria

- 1.) After step a) the UE shall send a CHANNEL REQUEST on the GSM-cell related to the BCCH transmitting MCC/MNC 244/081 to the SS.
- 2) After step b) the UE shall send LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the SS.
- 3) After step c) the UE shall respond with TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE.
- 4) After step e) the USIM shall contain the following values:

For UEs supporting (CS and PS) or (CS only):

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 081 TMSI: "34567890"

B2 Coding: В1 В3 **B4** B5 B6 B7 B8 B9 B10 B11 34 56 78 90 42 14 80 00 Hex XX XX XX

For UEs supporting (CS and PS) or (PS only):

EFPSLOCI (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 081 P-TMSI: "34567890"

Coding: В1 B2 **B3 B**5 **B6 B7 B8** В9 B10 B11 Hex 34 56 78 90 хх 42 14 80 XX

Coding: B12 B13 B14 Hex xx xx 00

7.2.4 Void

7.2.5 UE updating the User controlled PLMN selector list for E-UTRAN

7.2.5.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of PLMNs may be performed by the subscriber.

7.2.5.2 Conformance requirement

The UE shall correctly replace the selected UPLMN in the User controlled PLMN selector list.

- TS 31.102 [4], clause 5.3.6 and 4.2.5.

7.2.5.3 Test purpose

To verify that the UE correctly updates the EF_{PLMNwACT}.

7.2.5.4 Method of test

7.2.5.4.1 Initial conditions

No USS/SS is required for this test.

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is powered on.

7.2.5.4.2 Procedure

- a) The user shall initiate an MMI dependent procedure to change the second UPLMN in the User controlled PLMN selector list to MCC/MNC of 567/04, the ACT identifier shall set to E-UTRAN only.
- b) The UE is soft powered down.

7.2.5.5 Acceptance criteria

After step b) the USIM shall contain the following values:

EF_{PLMNwACT} (**UPLMN Selector**)

Logically: 1st PLMN: 244 081 (MCC MNC) 1st ACT: E-UTRAN 2nd PLMN: 567 04 $2^{nd}\;ACT$ E-UTRAN 3rd PLMN: 244 083 3^{rd} ACT: E-UTRAN 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: E-UTRAN 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 081 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: E-UTRAN 11th PLMN: 244 009 11th ACT: **UTRAN** 12th PLMN: 244 010

12th ACT:

E-UTRAN

Coding: Hex	B1 42	B2 14	B3 80	B4 40	B5 00	B6 65	B7 F7	B8 40	B9 40	B10 00	B11 42	B12 34	B13 80	B14 40	B15 00
	B16 42	B17 24	B18 80	B19 00	B20 80	B21 42	B22 34	B23 00	B24 40	B25 00	B26 42	B27 44	B28 00	B29 80	B30 00
	B31 42	B32 54	B33 00	B34 80	B35 00	B36 42	B37 14	B38 80	B39 80	B40 00	B41 42	B42 74	B43 00	B44 80	B45 00
	B46 42	B47 84	B48 00	B49 40	B50 00	B51 42	B52 94	B53 00	B54 80	B55 00	B56 42	B57 04	B58 10	B59 40	B60 00

7.2.6 UE recognising the priority order of the User controlled PLMN selector list using an ACT preference- UTRAN/E-UTRAN

7.2.6.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred PLMNs of the User on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{PLMNwACT}. Update and deletion of User controlled PLMNs may be performed by the subscriber by the use of the PIN.

7.2.6.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of the ACT identifier in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clauses 4.2.5 and 5.1.1.2.

7.2.6.3 Test purpose

To verify that the ACT with the higher priority (defined by its position in $EF_{PLMNwACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN has to be handled correctly by the UE.

7.2.6.4 Method of test

7.2.6.4.1 Initial conditions

For this test both a UTRAN USS and an E-UTRAN E-USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/004/0001.

- Access control: unrestricted.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/003/0001.

Access control: unrestricted.

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.2.6.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/003, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/003/0001

GUTI: "24400300010266436587"

- d) After receipt of the AttachComplete during registration from the UE, the E-USS sends RRCConnectionRelease.
- e) The UE is soft powered down.

7.2.6.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/003 to the E-USS.
- 2) After step b) the terminal shall send *AttachRequest* to the E-USS.
- 3) After step c) the terminal shall respond with AttachComplete during registration.
- 4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 24400300010266436587

Last visited registered TAI: 244/003/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	00	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	00	00	01	00				

7.2.7 UE recognising the priority order of the User controlled PLMN selector list using an ACT preference- GSM/E-UTRAN

7.2.7.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred PLMNs of the User on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of User controlled PLMNs may be performed by the subscriber by the use of the PIN.

7.2.7.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of the ACT identifier in the preferred list on the USIM.

274

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clauses 4.2.5 and 5.1.1.2.

7.2.7.3 Test purpose

To verify that the ACT with the higher priority (defined by its position in $EF_{PLMNwACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN has to be handled correctly by the UE.

7.2.7.4 Method of test

7.2.7.4.1 Initial conditions

For this test both a GSM SS and an E-UTRAN E-USS is needed.

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

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/082/0001.

- Access control: unrestricted.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/083/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.2.7.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/ 0001

GUTI: "24408300010266436587"

- d) After receipt of the AttachComplete during registration from the UE, the E-USS sends RRCConnectionRelease.
- e) The UE is soft powered down.

7.2.7.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083 to the e-USS.
- 2) After step b) the terminal shall send AttachRequest to the E-USS.

275

3) After step c) the terminal shall respond with *AttachComplete* during registration.

4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (EPS Information)

Logically: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.2.8 UE recognising the priority order of the User controlled PLMN selector list with the same access technology – E-UTRAN in NB-S1 mode

7.2.8.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred PLMNs of the User on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of User controlled PLMNs may be performed by the subscriber by the use of the PIN.

7.2.8.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of the ACT identifier in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clauses 4.2.5 and 5.1.1.2.

7.2.8.3 Test purpose

To verify that the ACT with the higher priority (defined by its position in $EF_{PLMNWACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for E-UTRAN in NB-S1 mode has to be handled correctly by the UE.

7.2.8.4 Method of test

7.2.8.4.1 Initial conditions

For this test 2 NB-IoT-cells are needed.

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

- TAI (MCC/MNC/TAC): 244/081/0001.

Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 244/083/0001.

Access control: unrestricted.

The default E-UTRAN UICC is used, with the following exception:

$EFPLMNwACT\ (User\ Controlled\ PLMN\ Selector\ with\ Access\ Technology)$

Logically: 1st PLMN: 244 083 (MCC MNC)

1st ACT: E-UTRAN in NB-S1mode

2nd PLMN: 244 081

2nd ACT: E-UTRAN in NB-S1 mode

3rd PLMN: 244 083 3rd ACT: E-UTRAN 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: E-UTRAN 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005

7th ACT: **UTRAN** 8th PLMN: 244 081 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: UTRAN 10th PLMN: 244 008 10th ACT: E-UTRAN 11th PLMN: 244 009 11th ACT: **UTRAN** 12th PLMN: 244 010 12th ACT: E-UTRAN

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	34	80	50	00	42	14	80	50	00	42	34	80	40	00
	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	42	24	80	00	80	42	34	00	40	00	42	44	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
	42	54	00	80	00	42	14	80	80	00	42	74	00	80	00
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	40	00	42	94	00	80	00	42	04	10	40	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.2.8.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083, the NB-SS sends *RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/0001

GUTI: "24408300010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*.
- e) The UE is powered down.

7.2.8.5 Acceptance criteria

- 1) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT -cell related to the BCCH transmitting MCC/MNC 244/083 to the NB-SS.
- 2) After step b) the terminal shall send AttachRequest to the NB-SS.
- 3) After step c) the terminal shall respond with AttachComplete during registration.
- 4) After step e) the USIM shall contain the following values:

EFEPSLOCI (**EPS Information**)

Logically: GUTI: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.2.9 UE recognising the priority order of the User controlled PLMN selector list using the ACT preference – E-UTRAN in WB-S1/E-UTRAN in NB-S1

7.2.9.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred PLMNs of the User on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$. Update and deletion of User controlled PLMNs may be performed by the subscriber by the use of the PIN.

7.2.9.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of the ACT identifier in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clauses 4.2.5 and 5.1.1.2.

7.2.9.3 Test purpose

To verify that the ACT with the higher priority (defined by its position in $EF_{PLMNwACT}$) takes precedence over the UPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in WB-S1 mode and E-UTRAN in NB-S1 mode has to be handled correctly by the UE.

7.2.9.4 Method of test

7.2.9.4.1 Initial conditions

For this test both an E-USS and NB-SS are needed.

The E-USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- TAI (MCC/MNC/LAC): 244/083/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 244/083/0001.

Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

$EF_{PLMNwACT} \ (User \ Controlled \ PLMN \ Selector \ with \ Access \ Technology)$

Logically: 1st PLMN: 244 081 (MCC MNC)

1st ACT: E-UTRAN 2nd PLMN: 244 081 2nd ACT: GSM

		10 th A 11 th P 11 th A	CT: MN: CT: MN: CT: MN: CT: MN: CT: MN: CT: MN: CT: LMN: CT: LMN: CT: LMN: CT: LMN:	244 083	AN in N 3 AN in V 3 AN 4 N 5 N 1 N 7 N AN 9 N O 1 O 1										
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	40	00	42	14	80	00	80	42	34	80	50	00
	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	42	34	80	60	00	42	34	00	40	00	42	44	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
	42	54	00	80	00	42	14	80	80	00	42	74	00	80	00
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	40	00	42	94	00	80	00	42	04	10	40	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.2.9.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083, the NB-SS sends *RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/0001

GUTI: "24408300010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.2.9.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083 to the NB-SS.
- 2) After step b) the terminal shall send AttachRequest to the NB-SS.

3) After step c) the terminal shall respond with *AttachComplete* during registration.

4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.3 Operator controlled PLMN selector handling

7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

7.3.1.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

The registration attempts initiated by the UE accessing UTRAN depends on UE's capabilities and can be one of the following:

- I. registration procedures for Ues supporting CS or
- II. registration procedures for Ues supporting PS or
- III. registration procedures for Ues supporting CS/PS

7.3.1.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53.

7.3.1.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNwACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection.

7.3.1.4 Method of test

7.3.1.4.1 Initial conditions

For this test a USS (in case of a Terminal accessing UTRAN) or a SS (in case of a Terminal accessing a GERAN) is needed.

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing a GERAN) transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

LAI (MCC/MNC/LAC): 254/011/0001.

RAI (MCC/MNC/LAC/RAC): 254/011/0001/05 (for UTRAN cell only).

Access control: unrestricted.

Attach/detach: disabled.

254/012/0001. LAI (MCC/MNC/LAC):

RAI (MCC/MNC/LAC/RAC): 254/012/0001/05 (for UTRAN cell only).

Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted.

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available

Coding: В1 B2 **B**3 R4 B5 B6 binary xx1x xx11 XXXX XXXX xxxx 1x00 xxxx x1xx xxxx xx1x xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EFOPLMNWACT (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)

> 1st ACT UTRAN 2nd PLMN: 254 011 2nd ACT UTRAN 3rd PLMN: 254 002 3rd ACT: UTRAN 4th PLMN: 254 012 4th ACT: GSM 5th PLMN: 254 011 5th ACT: GSM 6th PLMN: 254 005 6th ACT: UTRAN 7th PLMN: 254 006 7th ACT: UTRAN

8th PLMN: 254 007 8th ACT: UTRAN

Coding: Hex	B01 52 B11	B02 24 B12	B03 10 B13	B04 80 B14	B05 00 B15	B06 52 B16	B07 14 B17	B08 10 B18	B09 80 B19	B10 00 B20
	52	24	00	80	00	52	24	10	00	80
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	14	10	00	80	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.3.1.4.2 Procedure

Expected Sequence A:

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 254/012 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC): 254/012/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with following values:

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE with some of the following values:

LAI (MCC/MNC/LAC):254/012/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
 - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

- II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):254/012/0001

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The UE is soft powered down.

7.3.1.5 Acceptance criteria

- 1) After step a) the UE accessing a GERAN shall send CHANNEL REQUEST on the cell related to the BCCH transmitting MCC/MNC 254/012 to the SS and the UE accessing UTRAN shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 254/012 to the USS.
- 2) After step b) the UE accessing a GERAN shall send LOCATION UPDATING REQUEST to the SS and the UE accessing UTRAN shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST. To the USS during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE accessing GERAN shall respond with TMSI REALLOCATION COMPLETE and the UE accessing UTRAN shall respond with
 - I. TMSI REALLOCATION COMPLETE during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.

4) After step e) the USIM shall contain the following values:

For UEs accessing GERAN and UEs accessing UTRAN and supporting (CS and PS) or (CS only):

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 254

LAI-MNC: 012

TMSI: "34567890"

Coding: В1 B2 **B3 B4 B**5 **B6 B7 B8 B9** B10 B11 Hex 34 56 78 90 52 24 10 00 XX

For UEs supporting (CS and PS) or (PS only):

EFPSLOCI (Location Information)

Logically: RAI-MCC: 254

RAI-MNC: 012 P-TMSI: "34567890"

Coding: В1 B2 **B**3 B5 **B6** B7 B8 B9 B10 **B11 B**4 34 78 52 24 Hex 56 90 10 XX XX XX XX

Coding: B12 B13 B14 Hex xx xx 00

7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

7.3.2.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$.

The registration attempts initiated by the terminal accessing UTRAN depends on terminal's capabilities and can be one of the following:

- I. registration procedures for Ues supporting CS or
- II. registration procedures for Ues supporting PS or
- III. registration procedures for Ues supporting CS/PS

7.3.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2.2;
- TS 31.102 [4], clauses 4.2.5 and 4.2.53.

7.3.2.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in EF_{PLMNwACT}) takes precedence over the OPLMN with a higher priority when the UE performs a network selection.

7.3.2.4 Method of test

7.3.2.4.1 Initial conditions

For this test a USS (in case of a Terminal accessing UTRAN) or a SS (in case of a Terminal accessing a GERAN) is needed.

The USS (in case of a Terminal accessing UTRAN)/ SS (in case of a Terminal accessing a GERAN) transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05 (only for UTRAN cell).

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05 (only for UTRAN cell).

- Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

$EF_{PLMNwACT} \ (UPLMN \ Selector \ with \ Access \ Technology)$

Logically: 1st PLMN: 244 081 (MCC MNC)

1st ACT: **UTRAN** 2nd PLMN: 244 081 2nd ACT: **GSM** 3rd PLMN: 244 082 3rd ACT: **UTRAN** 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: **UTRAN** 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 006 8th ACT: **UTRAN**

9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: **UTRAN** 11th PLMN: 244 010 11th ACT: **UTRAN** 12th PLMN: 244 010 12th ACT: **GSM** Coding: B1 B2 **B**3 **B**4 **B**5 **B6 B7 B8 B9 B10** B11 **B12 B13 B14 B15** 14 80 80 00 80 00 Hex 42 42 14 80 42 24 80 80 00 B17 **B22 B23** B26 B27 **B28** B29 B16 B18 **B19** B20 B21 **B24 B25** B30 80 42 80 42 24 80 00 24 00 80 00 42 44 00 00 **B31 B32 B33 B34 B35 B36 B37 B38 B39 B40** B41 **B42 B43 B44** B45 42 54 00 80 00 42 64 00 80 00 42 74 00 80 00 **B46 B47 B48 B49 B50 B51** B52 **B53 B54 B55 B56 B57 B58 B59** B60 00 80 04 00 42 84 00 42 10 80 42 04 10 00 80

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.3.2.4.2 Procedure

Expected Sequence A:

- a) The UE is powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE on the cell related to the BCCH transmitting MCC/MNC 244/010, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values:

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values:

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
 - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
 - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

Expected Sequence B:

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/010/0001

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The UE is soft powered down.

7.3.2.5 Acceptance criteria

- 1) After step a) the UE accessing a GERAN shall send CHANNEL REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/010 to the SS and the UE accessing UTRAN shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/010 to the USS.
- 2) After step b) the UE accessing a GERAN shall send LOCATION UPDATING REQUEST to the SS and the UE accessing UTRAN shell send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE accessing GERAN shall respond with TMSI REALLOCATION COMPLETE and the UE accessing UTRAN shall respond with
 - I. TMSI REALLOCATION COMPLETE during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

For UEs accessing GERAN and UEs accessing UTRAN and supporting (CS and PS) or (CS only):

EFLOCI (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 010

TMSI: "34567890"

Coding: В1 B2 **B3** B4 B5 B6 B7 B8 B9 **B10 B11** 56 78 90 42 04 34 10 XXXX XX00

For UEs supporting (CS and PS) or (PS only):

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 010 P-TMSI: "34567890"

Coding: B1 B2 **B**3 R4 **B**5 **B6** B7 R8 R9 B10 B11 34 56 78 90 42 10 Hex XXXX XX 04 XX

Coding: B12 B13 B14 Hex xx xx 00

7.3.3 UE recognising the priority order of the Operator controlled PLMN selector list when accessing E-UTRAN

7.3.3.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

7.3.3.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53, 4.2.5 and 5.1.1.2.

7.3.3.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNwACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN/NB-IoT has to be handled correctly by the UE.

7.3.3.4 Method of test

7.3.3.4.1 Initial conditions

For this test an E-USS/NB-SS is required.

The E-USS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/011/0001.

- Access control: unrestricted.

- TAI (MCC/MNC/TAC): 254/012/0001.

- Access control: unrestricted.

The NB-SS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/011/0001.

Access control: unrestricted.

- TAI (MCC/MNC/TAC): 254/012/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications not available

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xx1x	xxxx xxxx	xxxx xxxx
	B9 xxxx xxxx	B10 xxxx xxxx	B11 xx01 xxxx					

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

ETSI

EFOPLMNWACT (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)

1st ACT E-UTRAN 2nd PLMN: 254 011 2nd ACT E-UTRAN 3rd PLMN: 254 002 3rd ACT: E-UTRAN 4th PLMN: 254 012 4th ACT: GSM 5th PLMN: 254 011 5th ACT: GSM 6th PLMN: 254 005 6th ACT: UTRAN 7th PLMN: 254 006 7th ACT: UTRAN 8th PLMN: 254 007

8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	40	00	52	14	10	40	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	40	00	52	24	10	00	80
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	14	10	00	80	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.3.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete/NB sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):254/012/0001

GUTI: "25401200010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.3.3.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest/RRCConnectionRequest-NB* on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012 to the E-USS/NB-SS.
- 2) After step b) the terminal shall send AttachRequest to the E-USS/NB-SS.
- 3) After step c) the terminal shall respond with Attach Complete during registration.
- 4) After step e) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: 25401200010266436587

Last visited registered TAI: 254/012/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	52	24	10	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	52	24	10	00	01	00				

7.3.4 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list – E-UTRAN

7.3.4.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNWACT}$.

7.3.4.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2.2;
- TS 31.102 [4], clauses 4.2.5, 4.2.53 and 5.1.1.2.

7.3.4.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in $EF_{PLMNWACT}$) takes precedence over the OPLMN with a higher priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN/NB-IoT has to be handled correctly by the UE.

7.3.4.4 Method of test

7.3.4.4.1 Initial conditions

For this test an E-USS/NB-SS is required.

The E-USS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/001/0001.

-- Access control: unrestricted.

- TAI (MCC/MNC/TAC): 244/010/0001.

- Access control: unrestricted.

The NB-SS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/001/0001.

-- Access control: unrestricted.

- TAI (MCC/MNC/TAC): 244/010/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available Fixed dialling numbers available Barred dialling numbers available The GSM Access available The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1' Enabled Services Table available Operator controlled PLMN selector available EPS Mobility Management Information available Allowed CSG Lists and corresponding indications not available

Coding: В1 B2 ВЗ В4 **B**5 B7 В8 Binary xxxx 1x00 xx1x xx11 XXXX XXXX xxxx x1xx xxxx xx11 xxxx xx1x XXXX XXXX XXXX XXXX R9 B10 **B11** XXXX XXXX XXXX XXXX xx01 xxxx

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.4.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/010, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete/NB sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/010/0001

GUTI: "24401000010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.3.4.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest/RRCConnectionRequest-NB* on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/010 to the E-USS/NB-SS.
- 2) After step b) the terminal shall send *AttachRequest* to the E-USS/NB-SS.
- 3) After step c) the terminal shall respond with *AttachComplete* during registration.
- 4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 24401000010266436587

Last visited registered TAI: 244/010/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	04	10	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	04	10	00	01	00				

7.3.5 UE recognising the priority order of the Operator controlled PLMN selector list when accessing E-UTRAN in NB-S1 mode

7.3.5.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

7.3.5.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53, 4.2.5 and 5.1.1.2.

7.3.5.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNWACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in NB-IoT mode has to be handled correctly by the UE.

7.3.5.4 Method of test

7.3.5.4.1 Initial conditions

For this test a NB-SS is required.

The NB-SS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/011/0001.

- Access control: unrestricted.

- TAI (MCC/MNC/TAC): 254/012/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications not available

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xx1x	xxxx xxxx	xxxx xxxx
	B9 xxxx xxxx	B10 xxxx xxxx	B11 xx01 xxxx					

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EFOPLMNWACT (OPLMN Selector)

LL OPLMNW	ACT (OI)	LIVIIN SCIECI	.01)							
Logical	lly:	1st PLMN 1st ACT 2nd PLMN 2nd ACT 3rd PLMN 3rd ACT: 4th PLMN 4th ACT: 5th PLMN 5th ACT: 6th PLMN 6th ACT: 7th PLMN 7th ACT: 8th PLMN 8th ACT:	E-UT I: 254 0 E-UTRA I: 254 0 E-UTRA I: 254 0 GSM I: 254 0 UTRAN I: 254 0 UTRAN I: 254 0 UTRAN II 254 0 III 254 0	11 N in NB-S 02 N 12 11 05	B-S1 mode					
Coding: Hex	B01 52 B11 52 B21 52 B31 52	B02 24 B12 24 B22 14 B32 64	B03 10 B13 00 B23 10 B33	B04 50 B14 40 B24 00 B34 80	B05 00 B15 00 B25 80 B35 00	B06 52 B16 52 B26 52 B36 52	B07 14 B17 24 B27 54 B37 74	B08 10 B18 10 B28 00 B38 00	B09 50 B19 00 B29 80 B39 80	B10 00 B20 80 B30 00 B40

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.5.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012, the NB-SS sends *RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):254/012/0001

GUTI: "25401200010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.3.5.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012 to the NB-SS.
- 2) After step b) the terminal shall send *AttachRequest* to the NB-SS.
- 3) After step c) the terminal shall respond with Attach Complete during registration.
- 4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 25401200010266436587

Last visited registered TAI: 254/012/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	52	24	10	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	52	24	10	00	01	00				

7.3.6 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list – E-UTRAN in NB-S1 mode

7.3.6.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{PLMNwACT}.

7.3.6.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2.2;
- TS 31.102 [4], clauses 4.2.5, 4.2.53 and 5.1.1.2.

7.3.6.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in $EF_{PLMNWACT}$) takes precedence over the OPLMN with a higher priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in NB-IoT mode has to be handled correctly by the UE.

7.3.6.4 Method of test

7.3.6.4.1 Initial conditions

For this test a NB-SS is required.

The NB-SS transmits on two BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/001/0001.

-- Access control: unrestricted.

- TAI (MCC/MNC/TAC): 244/010/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications not available

B2 В3 B4 Coding: В1 **B**5 B7 B8 Binary xxxx 1x00 xx1x xx11 XXXX XXXX xxxx x1xx xxxx xx1x XXXX XXXX xxxx xx11 XXXX XXXX

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

EF_{PLMNwACT} (User Controlled PLMN Selector with Access Technology)

Logically: 1st PLMN: 244 081 (MCC MNC)

E-UTRAN 1st ACT: 2^{nd} PLMN: 244 081 2nd ACT: **GSM** 3rd PLMN: 244 083 3rd ACT: E-UTRAN 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: E-UTRAN 6th PLMN: 244 004 6th ACT: **UTRAN** 7^{th} PLMN: 244 005 7^{th} ACT: **UTRAN** 8th PLMN: 244 081 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: E-UTRAN 244 009

11th PLMN: 244 009 11th ACT: UTRAN 12th PLMN: 244 010

12th ACT: E-UTRAN in NB-S1 mode

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	40	00	42	14	80	00	80	42	34	80	40	00
	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	42	24	80	00	80	42	34	00	40	00	42	44	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
	42	54	00	80	00	42	14	80	80	00	42	74	00	80	00
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	40	00	42	94	00	80	00	42	04	10	50	00

EFOPLMNWACT (Operator Controlled PLMN Selector with Access Technology)

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: E-UTRAN in NB-S1 mode

2nd PLMN: 254 001
2nd ACT: GSM
3rd PLMN: 254 002
3rd ACT: E-UTRAN
4th PLMN: 254 003
4th ACT: E-UTRAN
5th PLMN: 254 004
5th ACT: UTRAN
6th PLMN: 254 005
6th ACT: UTRAN
7th PLMN: 254 006
7th ACT: UTRAN
8th PLMN: 254 007
8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	14	00	50	00	52	14	00	00	80
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	40	00	52	34	00	40	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

7.3.6.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/010, the NB-SS sends *RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/010/ 0001

GUTI: "24401000010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*
- e) The UE is soft powered down.

7.3.6.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/010 to the NB-SS.
- 2) After step b) the terminal shall send AttachRequest to the NB-SS.
- 3) After step c) the terminal shall respond with *AttachComplete* during registration.
- 4) After step e) the USIM shall contain the following values:

EFEPSLOCI (**EPS Information**)

Logically: GUTI: 24401000010266436587

Last visited registered TAI: 244/010/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	04	10	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	04	10	00	01	00				

7.3.7 UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in NB-S1/E-UTRAN in WB-S1 mode

7.3.7.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

7.3.7.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53, 4.2.5 and 5.1.1.2.

7.3.7.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNWACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in NB-IoT mode and E-UTRAN in WB-S1 mode has to be handled correctly by the UE.

7.3.7.4 Method of test

7.3.7.4.1 Initial conditions

For this test an E-USS and NB-SS is required.

The E-USS transmits on BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/012/0001.

Access control: unrestricted.

The NB-SS transmits on BCCHs, with the following network parameters:

- TAI (MCC/MNC/TAC): 254/012/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Operator controlled PLMN selector available EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications not available

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xx1x	xxxx xxxx	xxxx xxxx
	B9 xxxx xxxx	B10 xxxx xxxx	B11 xx01 xxxx					

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EFOPLMNWACT (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)

1st ACT E-UTRAN in NB-S1 mode

2nd PLMN: 254 012

2nd ACT E-UTRAN in WB-S1 mode

3rd PLMN: 254 002
3rd ACT: E-UTRAN
4th PLMN: 254 012
4th ACT: GSM
5th PLMN: 254 011
5th ACT: GSM
6th PLMN: 254 005
6th ACT: UTRAN
7th PLMN: 254 006
7th ACT: UTRAN
8th PLMN: 254 007

8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	50	00	52	24	10	60	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	40	00	52	24	10	00	80
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	14	10	00	80	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.7.4.2 Procedure

a) The UE is powered on.

- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012, the NB-SS sends *RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):254/012/0001

GUTI: "25401200010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.3.7.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 254/012 to the NB-SS.
- 2) After step b) the terminal shall send *AttachRequest* to the NB-SS.
- 3) After step c) the terminal shall respond with *AttachComplete* during registration.
- 4) After step e) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: GUTI: 25401200010266436587

Last visited registered TAI: 254/012/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	52	24	10	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	52	24	10	00	01	00				

7.3.8 UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in NB-S1 mode/ GSM

7.3.8.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

7.3.8.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53, 4.2.5 and 5.1.1.2.

7.3.8.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNWACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in NB-S1 mode has to be handled correctly by the UE.

7.3.8.4 Method of test

7.3.8.4.1 Initial conditions

For this test both a GSM SS and an NB-IoT NB-SS are needed.

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

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/083/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 244/083/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EFOPLMNwACT (Operator Controlled PLMN Selector with Access Technology)

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: E-UTRAN 2nd PLMN: 254 001 2nd ACT: GSM

3rd PLMN: 244 083

3rd ACT: E-UTRAN in NB-S1 mode

4th PLMN: 244 083 4th ACT: GSM 5th PLMN: 254 004 5th ACT: UTRAN 6th PLMN: 254 005 6th ACT: UTRAN 7th PLMN: 254 006 7th ACT: UTRAN 8th PLMN: 254 007 8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	14	00	40	00	52	14	00	00	80
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	42	34	80	50	00	42	34	80	00	80
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.8.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest-NB* from the UE on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete-NB* sent by the UE to the NB-SS.

c) During registration and after receipt of a *AttachRequest* from the UE, the NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/0001

GUTI: "24408300010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the NB-SS sends *RRCConnectionRelease-NB*.
- e) The UE is soft powered down.

7.3.8.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest-NB* on the NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083 to the NB-SS.
- 2) After step b) the terminal shall send AttachRequest to the NB-SS.
- 3) After step c) the terminal shall respond with *AttachComplete* during registration.
- 4) After step e) the USIM shall contain the following values:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.3.9 UE recognising the priority order of the Operator controlled PLMN selector list using the ACT preference - E-UTRAN in WB-S1 mode/GSM

7.3.9.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{OPLMNwACT}. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

7.3.9.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011 [6], clause 3.2.2;
- TS 31.102 [4], clause 4.2.53, 4.2.5 and 5.1.1.2.

7.3.9.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in $EF_{OPLMNWACT}$) takes precedence over the OPLMN with the lower priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN in WB-S1 mode has to be handled correctly by the UE.

7.3.9.4 Method of test

7.3.9.4.1 Initial conditions

For this test both a GSM SS and an E-UTRAN E-USS is needed.

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

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/083/0001.

- Access control: unrestricted.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/083/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EFOPLMNwACT (Operator Controlled PLMN Selector with Access Technology)

Logically: 1st PLMN: 254 001 (MCC MNC)

1st ACT: E-UTRAN 2nd PLMN: 254 001 2nd ACT: GSM 3rd PLMN: 244 083

3rd ACT: E-UTRAN in WB-S1 mode

4th PLMN: 244 083 4th ACT: GSM 5th PLMN: 254 004 5th ACT: UTRAN 6th PLMN: 254 005 6th ACT: UTRAN 7th PLMN: 254 006 7th ACT: UTRAN 8th PLMN: 254 007

8th ACT: UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	14	00	40	00	52	14	00	00	80
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	42	34	80	60	00	42	34	80	00	80
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.9.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/ 0001

GUTI: "24408300010266436587"

- d) After receipt of the AttachComplete during registration from the UE, the E-USS sends RRCConnectionRelease.
- e) The UE is soft powered down.

7.3.9.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083 to the E-USS.
- 2) After step b) the terminal shall send *AttachRequest* to the E-USS.
- 3) After step c) the terminal shall respond with *AttachComplete* during registration.
- 4) After step e) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: GUTI: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.4 Higher priority PLMN search handling

7.4.1 UE recognising the search period of the Higher priority PLMN

7.4.1.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority PLMN on which the UE shall register first. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

The registration attempts initiated by the terminal accessing UTRAN depends on terminal's capabilities and can be one of the following:

- I. registration procedures for Ues supporting CS or
- II. registration procedures for Ues supporting PS or
- III. registration procedures for Ues supporting CS/PS

7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM.

- TS 22.011 [6], clauses 3.2.2 and 3.2.2.5.
- TS 24.008 [16], clause 4.7.5

7.4.1.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN takes precedence over the VPLMN in which the UE is currently registered in.

7.4.1.4 Method of test

7.4.1.4.1 Initial conditions

For this test an UTRAN USS (in case of a Terminal accessing UTRAN) or a SS (in case of Terminal accessing a GERAN) is needed.

The USS (in case of a Terminal accessing UTRAN)/SS (in case of Terminal accessing a GERAN) transmits on BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/082/0001.

- RAI (MCC/MNC/LAC/RAC): 244/082/0001/05 (only for UTRAN cell).

- Access control: unrestricted.

After the registration of UE the USS (in case of a Terminal accessing UTRAN) or a SS (in case of Terminal accessing a GERAN) transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05. (only for UTRAN cell)

- Access control: unrestricted.

NOTE: In case of a GERAN no packet system information is transmitted

The default UICC shall be used with the following exception:

EF_{HPPLMN} (Higher Priority PLMN Search period)

Logically: set to 6 minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

7.4.1.4.2 Procedure

Expected sequence A:

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.

- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC): 244/082/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC): 244/082/0001/05

P-TMSI:"34567890"

P-TMSI signature value: "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/082/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC)244/082/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
 - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 244/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with following values:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC): 244/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC)244/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

Expected sequence B:

- a) The UE shall be powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS shall send IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/082/0001

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 244/081. An internal timer shall start to run.
- f) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE. The internal timer is stopped.

g) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/081/0001

TMSI: "12345678"

to the UE.

- h) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- i) The UE is soft powered down.

7.4.1.5 Acceptance criteria

- After step e) the UE accessing a GERAN shall send CHANNEL REQUEST on the cell related to the BCCH transmittingMCC/MNC 244/081 to the SS and the UE accessing UTRAN shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/081 to the USS
- 2) After.step e) the UE accessing a GERAN shall send LOCATION UPDATING REQUEST to the SS and the UE accessing UTRAN shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ROUTING AREA UPDATE REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE accessing a GERAN shall respond with TMSI REALLOCATION COMPLETE and the UE accessing UTRAN shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10 % greater than the required 6 minutes.

5) After step i) the USIM shall contain the following values:

For UEs accessing GERAN and UEs accessing UTRAN and supporting (CS and PS) or (CS only):

EF_{LOCI} (**Location Information**)

Logically: LAI-MCC: 244

LAI-MNC: 081

TMSI: "12345678"

B2 B11 Coding: В1 **B**3 R4 **R5** R6 R7 R۸ R9 B10 Hex 12 34 56 78 42 14 80 00 XX XX XX

For UEs supporting (CS and PS) or (PS only):

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 081 P-TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	xx	xx	xx	42	14	80	xx
Coding: Hex	B12 xx	B13 xx	B14 00								

7.4.2 GSM/UmTS dual mode UEs recognising the search period of the Higher priority PLMN

7.4.2.1 Definition and applicability

The Higher priority PLMN handling is defined in TS 22.011 [6] . The Higher priority PLMN search period gives the time interval between searches for a higher priority PLMN.

The registration attempts initiated by the uE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

To avoid a duplication of tests, this test supersedes the previous test case (7.4.1).

7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred lists on the USIM including the Access Technology Identifier.

- TS 22.011 [6], clauses 3.2.2 and 3.2.2.5.

7.4.2.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined according to the selection order in TS 22.011 [6]) takes precedence over the VPLMN in which the UE is currently registered in.

7.4.2.4 Method of test

7.4.2.4.1 Initial conditions

For this test both a GSM SS and an UTRAN USS are needed.

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

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/082/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

EFHPLMNWACT (HPLMN selector with Access Technology)

Logically: Set to MCC 244 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 14 80 80 00

EF_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6 minutes

Coding: B1 Hex 01

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

HPLMN selector with access technology available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx x1xx

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.4.2.4.2 Procedure

a) The UE is powered on.

- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATING REQUEST from the UE, the SS sends LOCATION UPDATING ACCEPT with:

LAI (MCC/MNC/LAC):244/082/0001

TMSI: "34567890"

to the UE.

d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.

- e) The SS starts to send on the second BCCH with the MCC/MNC 244/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt of a RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081 from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC)244/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC)244/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
 - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
 - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081 to the USS.
- 2) After step e) the UE shall send
 - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
 - II. ATTACH REQUEST during registration on PS or
 - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
 - I. TMSI REALLOCATION COMPLETE during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10 % greater than the required 6 minutes.

5) After step i) the USIM shall contain the following values:

For UEs supporting (CS and PS) or (CS only):

EFLOCI (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 081

TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex											

For UEs supporting (CS and PS) or (PS only):

EFPSLOCI (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 081 P-TMSI: "12345678"

Coding: Hex						

Coding: B12 B13 B14 Hex xx xx 00

7.4.3 UE recognising the search period of the Higher priority PLMN – E-UTRAN

7.4.3.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority PLMN on which the UE shall register first. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

7.4.3.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred lists on the USIM.

- TS 22.011 [6], clauses 3.2.2 and 3.2.2.5.
- TS 24.301 [26], clause 5.5.3.2
- TS 31.102 [4], clause 4.2.6.

7.4.3.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN takes precedence over the VPLMN in which the UE is currently registered in. Hereby the new coding for RAT E-UTRAN/NB-IoT has to be handled correctly by the UE.

7.4.3.4 Method of test

7.4.3.4.1 Initial conditions

For this test an E-USS/NB-IoT is required.

The E-USS transmits on BCCH with the following network parameters:

-- TAI (MCC/MNC/TAC): 244/008/0001.

- Access control: unrestricted.

After the registration of UE the E-USS transmits on a second BCCH with the following network parameters:

- TAI (MCC/MNC/TAC): 244/083/0001.

-- Access control: unrestricted.

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

-- TAI (MCC/MNC/TAC): 244/008/0001.

- Access control: unrestricted.

After the registration of UE the NB-SS transmits on a second BCCH with the following network parameters:

- TAI (MCC/MNC/TAC): 244/083/0001.

-- Access control: unrestricted.

The default E-UTRAN UICC shall be used with the following exception:

EF_{HPPLMN} (Higher Priority PLMN Search period)

Logically: For an MS that does not only support any of the following or a combination of NB-S1 mode or

GERAN EC-GSM-IoT or Category M1 of E-UTRAN enhanced-MTC mode, T is 6 minutes.

Otherwise T is 2 hours.

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

7.4.3.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/008, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):244/008/ 0001

GUTI: "24400800010266436587"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- e) The E-USS/NB-SS starts to send on the second BCCH with the MCC/MNC 244/083. An internal timer shall start to run.
- f) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete/NB sent by the UE to the E-USS/NB-SS.
- g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS/NB-SS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):244/083/0001

GUTI: "24408300010266436587"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*.
- i) The UE is soft powered down.

7.4.3.5 Acceptance criteria

- 1.) After step e) the UE shall send a *RRCConnectionRequest/RRCConnectionRequest-NB* on the E-UTRAN-cell/NB-IoT-cell related to the BCCH transmitting MCC/MNC 244/083 to the E-USS/NB-SS.
- 2) After step f) the terminal shall send TrackingAreaUpdateReques to the E-USS/NB-SS.
- 3) After step g) the terminal shall respond with TrackingAreaUpdatComplete during registration.
- 4) After step i) the USIM shall contain the following values:

$EF_{EPSLOCI} \, (EPS \,\, Information)$

Logically: 24408300010266436587

Last visited registered TAI: 244/083/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	34	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	34	80	00	01	00				

7.4.4 E-UTRAn/EPC capable UEs recognising the search period of the Higher priority PLMN – GSM/E-UTRAN

7.4.4.1 Definition and applicability

The Higher priority PLMN handling is defined in TS 22.011 [6]. The Higher priority PLMN search period gives the time interval between searches for a higher priority PLMN.

To avoid a duplication of tests, this test supersedes the previous test case (7.4.3).

7.4.4.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred lists on the USIM including the Access Technology Identifier.

- TS 22.011 [6], clauses 3.2.2 and 3.2.2.5.

7.4.4.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined according to the selection order in TS 22.011 [6]) takes precedence over the VPLMN in which the UE is currently registered in. Hereby the new coding for RAT E-UTRAN has to be handled correctly by the UE.

7.4.4.4 Method of test

7.4.4.4.1 Initial conditions

For this test both a GSM SS and an E-UTRAN E-USS are needed.

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

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/082/0001.

- RAI (MCC/MNC/LAC/RAC): 244/082/0001/05.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

- Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the E- USS transmits on BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/081/0001.

-- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EFHPLMNWACT (HPLMN selector with Access Technology)

Logically: Set to MCC 244 and MNC 081

Set to

E-UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 14 80 40 00

EF_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

HPLMN selector with access technology available EPS Mobility Management Information available

Allowed CSG Lists and corresponding indications not available

Coding: B8 B1 B2 **B**3 B4 **B**5 B6 B7 Binary xx1x xx11 xxxx 1x00 XXXX XXXX xxxx x1xx xxxx xx11 xxxx x1xx XXXX XXXX XXXX XXXX В9 B10 B11 XXXX XXXX XXXX XXXX xx01 xxxx

The UICC is installed into the Terminal, the UE is set to automatic PLMN selection mode and to auto GPRS attach..

7.4.4.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of an ATTACH REQUEST from the UE, the SS sends ATTACH ACCEPT with:

RAI (MCC/MNC/LAC/RAC): 244/082/0001/05

TMSI: "34567890"

to the UE.

- d) After receipt of a ATTACH COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 244/081 and the E-USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.

g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):244/081/0001

GUTI: "24408100010266436587"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease*.
- i) The UE is soft powered down.

7.4.4.5 Acceptance criteria

- 1.) After step e) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081 to the e-USS.
- 2) After step f) the terminal shall send TrackingAreaUpdateReques to the E-USS.
- 3) After step g) the terminal shall respond with TrackingAreaUpdatComplete during registration.
- 4) After step i) the USIM shall contain the following values:

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 24408100010266436587

Last visited registered TAI: 244/081/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	14	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	14	80	00	01	00				

7.4.5 E-UTRAn/EPC capable UEs recognising the search period of the Higher priority PLMN – UTRAN/E-UTRAN

7.4.5.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF_{HPLMNwACT}. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

To avoid a duplication of tests, this test supersedes test 7.4.x.

7.4.5.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM including the Access Technology Identifier.

- TS 22.011 [6], clauses 3.2.2 and 3.2.2.5.

7.4.5.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined by its position in $EF_{HPLMNwACT}$) takes precedence over the VPLMN in which the UE is currently registered in. Hereby the new coding for RAT E-UTRAN has to be handled correctly by the UE.

7.4.5.4 Method of test

7.4.5.4.1 Initial conditions

For this test both a UTRAN USS and an E-UTRAN E-USS are needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/009/0001.

- RAI (MCC/MNC/LAC/RAC): 244/009/0001/05.

- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the E- USS transmits on BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/081/0001.

-- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exception:

EF_{HPLMNwACT} (HPLMN selector with Access Technology)

Logically: Set to MCC 244 and MNC 081

Set to

E-UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 14 80 40 00

EF_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

HPLMN selector with access technology available EPS Mobility Management Information available Allowed CSG Lists and corresponding indications not available

Coding: B1 B2 **B**3 B4 B5 B6 B7 B8 Binary xxxx x1xx xx1x xx11 XXXX XXXX xxxx 1x00 xxxx xx11 xxxx x1xx XXXX XXXX XXXX XXXX R9 B10 B11 XXXX XXXX XXXX XXXX xx01 xxxx

The UICC is installed into the Terminal, the UE is set to automatic PLMN selection mode and to auto GPRS attach.

7.4.5.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) After receipt of an ATTACH REQUEST from the UE, the SS sends ATTACH ACCEPT with:

RAI (MCC/MNC/LAC/RAC): 244/009/0001/05

TMSI: "34567890"

to the UE.

- d) After receipt of a ATTACH COMPLETE from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) TheUSS starts to send on the second BCCH with the MCC/MNC 244/081 and the E-USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):244/081/0001

GUTI: "24408100010266436587"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease*.
- i) The UE is soft powered down.

7.4.5.5 Acceptance criteria

- 1.) After step e) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081 to the e-USS.
- 2) After step f) the terminal shall send *TrackingAreaUpdateReques* to the E-USS.
- 3) After step g) the terminal shall respond with TrackingAreaUpdatComplete during registration.
- 4) After step i) the USIM shall contain the following values:

EFEPSLOCI (**EPS Information**)

Logically: GUTI: 24408100010266436587

Last visited registered TAI: 244/081/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	14	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	14	80	00	01	00				

7.5 Void

8 Subscription independent tests

8.1 Phone book procedures

8.1.1 Recognition of a previously changed phonebook

8.1.1.1 Definition and applicability

If the UICC is inserted into a GERAN Rel-4 or earlier terminal, the phonebook may have been altered in this GSM session. If the ADN entry has been changed or deleted, the GSM terminal will not be able to change the appropriate additional phonebook entries (e.g. EF_{ANR} Additional Number). In that case the UICC shall set a flag in the appropriate EF_{PBC} (phonebook Control). If the UICC is inserted in a 3G or GERAN Terminal, the 3G or GERAN Terminal shall recognise the flag and the phonebook shall be synchronised by the Terminal. Once the Terminal recognise the set flag in the EF_{PBC} , the Terminal shall update the Change Counter in the EF_{CC} .

8.1.1.2 Conformance requirement

The 3G or GERAN Terminal shall recognise the set flag in the EF_{PBC} and then synchronise the phonebook. The Terminal shall also update EF_{CC} (Change Counter).

- TS 31.102 [4], clause 4.4.2.

8.1.1.3 Test purpose

- 1) To verify that the Terminal has recognised that the phonebook has been altered by a GSM Terminal.
- 2) To verify that the Terminal does the synchronising of the changed phonebook entries.
- 3) To verify that the Terminal updates the EF_{PBC} and EF_{CC}.

8.1.1.4 Method of test

8.1.1.4.1 Initial conditions

No USS is needed for this test.

The default UICC is used with the following exception:

EFADN (Abbreviated Dialling Number)

Logically:

Record 1: Length of alpha identifier: 32 characters;

Alpha identifier: "ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEF";

Length of BCD number: "03";

TON and NPI: Telephony and Unknown;

Dialled number: 123; CCI: None; Ext1: None.

Record 1:

Coding: **B**1 B2 В3 B32 **B33 B34 B35 B36 B37 B38 B39** B46 41 42 43 46 03 81 21 F3 FF FF FF FF Hex

EF_{PBC} (Phonebook Control)

Logically:

Record 1: The ADN Record No. 1 has been hanged by a GSM terminal.

Related ADN record is not hidden.

Coding: B1 B2 Hex 01 00

EF_{CC} (Change Counter)

Logically: "000F"

Coding: B1 B2 Hex 00 0F

The UICC is installed into the Terminal

8.1.1.4.2 Procedure

a) The Terminal is powered on.

b) The Terminal shall stay powered on until the phonebook synchronisation procedures are finished. If the synchronisation is indicated by the Terminal, the Terminal shall only powered down after this indication is vanished.

8.1.1.5 Acceptance criteria

After step b) the USIM shall contain the following values:

EF_{PBC} (Phonebook Control)

Logically:

Record 1: The entry control information is reset.

Related ADN record is not hidden.

Coding: B1 B2 Hex 00 00

EF_{CC} (Change Counter)

Logically: The counter is incremented to "0010"

Coding: B1 B2 Hex 00 10

8.1.2 Update of the Phonebook Synchronisation Counter (PSC)

8.1.2.1 Definition and applicability

The phonebook synchronisation Counter is used to unambiguously identify the status of the phonebook. Every time the phonebook is reset/deleted or the UID and/or the CC has run out of range, the PSC shall be regenerated.

The PSC is a part of the phonebook identifier.

8.1.2.2 Conformance requirement

Every time either the UID or the CC is incremented by the Terminal, the value of the contend of the appropriate EF shall be tested. If either UID or CC has reached "FF FF", the related EF shall be set to "00 01" and the PSC is incremented.

- TS 31.102 [4], clause 4.4.2.12.2.

8.1.2.3 Test purpose

- 1) To verify that the Terminal has recognised that the values of UID and CC has changed.
- 2) To verify that the Terminal resets the value of EF_{UID} and EF_{CC} .
- 3) To verify that the Terminal updates EF_{PSC}.

8.1.2.4 Method of test

8.1.2.4.1 Initial conditions

No USS is needed for this test.

The default UICC is used with the following exception:

EF_{UID} (Unique Identifier)

Logically: one record is set to "FF FF"

Coding: B1 B2 Hex FF FF

EFPUID (Previous Unique Identifier)

Logically: is set to "FF FF"

Coding: B1 B2 Hex FF FF

EF_{CC} (Change Counter)

Logically: set to "FF FF"

Coding: B1 B2 Hex FF FF

EFPSC (Phonebook Synchronisation Counter)

Logically: set to "00 00 FF FF"

Coding: B1 B2 B3 B4 Hex 00 00 FF FF

At least one phonebook entry shall be empty and available for creating a new entry (e.g. an appropriate ADN record).

The UICC is installed into the Terminal and the UE is powered on and the correct PIN is entered.

8.1.2.4.2 Procedure

a) A new phonebook entry shall be created.

NOTE 1: This may be done by storing a new telephone number in an empty ADN record.

b) The UE shall have given the time to perform the regeneration of the UID records.

NOTE 2: It is assumed that the UE will indicate the time it needs to perform the regeneration by displaying a busy signal to the user.

8.1.2.5 Acceptance criteria

After step b) the USIM shall contain the following values:

The EF_{UID} (Unique Identifier) shall have been regenerated with UID values starting with "00 01". The UID values may be stored in any order, but shall be unique. The entry in EF_{UID} with value FF FF (the maximum value) shall have been replaced by an appropriate value which shall be distinguishable to the maximum value. EF_{PUID} shall contain a UID value (other than FFFF) that is present in EF_{UID} .

EF_{CC} (Change Counter)

Logically: set to "00 01"

Coding: B1 B2 Hex 00 01

EF_{PSC} (Phonebook Synchronisation Counter)

Logically: set to "00 01 00 00"

Coding: B1 B2 B3 B4 Hex 00 01 00 00

8.1.3 Phonebook content handling

8.1.3.1 Handling of BCD number/ SSC content extension

8.1.3.1.1 Definition and applicability

The length of BCD number/SSC contents in EF_{ADN} byte gives the number of bytes of the following two data items containing actual BCD number/SSC information. This means that the maximum value is 11, even when the actual ADN/SSC information length is greater than 11. When an ADN/SSC has extension, it is indicated by the extension1 identifier being unequal to 'FF'. The remainder is stored in the EF_{EXT1} with the remaining length of the additional data being coded in the appropriate additional record itself.

8.1.3.1.2 Conformance requirement

The terminal shall support the BCD number/ SSC extension for EF_{ADN} as defined in TS 31.102 [4], clauses 4.4.2.3 and 4.4.2.4.

Reference:

- TS 31.102 [4], clauses 4.4.2.3 and 4.4.2.4.

8.1.3.1.3 Test purpose

1) To verify that the terminal is able to read and update BCD numbers/ SSC content with and without extension correctly in EF_{ADN} and EF_{EXT1} .

8.1.3.1.4 Method of test

8.1.3.1.4.1 Initial conditions

The terminal is connected to the USIM Simulator.

Prior to the test execution the terminal manufacturer shall state the maximum number of BCD digits (excluding TON/NPI), which are supported by the terminal for global phonebook updating.

The default USIM is used with the following exceptions:

Only the global phonebook is present.

The global phonebook shall contain:

EF_{PBR} (Phonebook reference file)

Logically: Only EF_{ADN} and EF_{EXT1} are present in the global phonebook.

$EF_{ADN} \ (Abbreviated \ dialling \ numbers)$

Logically:

10 records, each record non-empty and unique. Unless otherwise stated, the ADN records shall not use extended BCD numbers/SSC strings.

Record 1: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact001";

Length of BCD number: 11

TON and NPI: Telephony and International; Dialled number: "00112233445566778899";

CCI: 'FF'; Ext1: 01.

Record 1:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11		B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	31	FF		FF	0B
	B34 91	B35 00	B36 11	B37 22	B38 33	B39 44	B40 55	B41 66	B42 77	B43 88	B44 99	B45 FF	B46 01	

Record 2: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact002";

Length of BCD number: 11;

TON and NPI: Telephony and International; Dialled number: "01234567890123456789";

CCI: 'FF'; Ext1: 'FF'.

Record 2:

Coding: В1 B2 В3 В4 **B**5 B6 В7 B8 В9 B10 B11 **B32** B33 43 74 74 30 30 32 0B Hex 6F 6E 61 63 FF FF B46 **B34 B35** B36 **B37 B38 B39** B40 B42 B43 **B45 B41 B44** 91 10 32 54 76 98 10 32 54 76 98 FF FF

Record 3: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact003";

Length of BCD number: 11;

TON and NPI: Telephony and International; Dialled number: "99887766554433221100";

CCI: 'FF'; Ext1: '02'.

Record 3:

Coding: В1 B2 В3 B4 **B**5 B6 B7 B8 В9 B10 B11 B32 B33 . . . 43 6F 6E 74 74 30 30 FF FF 0B Hex 61 63 33 **B34 B35 B36 B37 B38 B39 B40 B41** B42 B43 **B44 B45 B46** 91 99 88 77 66 55 44 33 22 11 00 FF 02

Record 4: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact004";

Length of BCD number: 9;

TON and NPI: Telephony and International; Dialled number: "12121212121212";

CCI: 'FF'; Ext1: 'FF'.

Record 4:

Coding: B2 **B5** B6 B7 **B8 B9** B10 **B32 B33 B**1 В3 **B**4 B11 Hex 43 6F 6E 74 61 63 74 30 30 34 FF FF 09 . . . B39 B34 **B35** B36 **B37 B38** B40 B41 B42 B43 B44 B45 **B46** 91 21 21 21 21 FF FF FF FF 21 21 21 21

Record 7: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact007";

Length of BCD number: 3

TON and NPI: Telephony and International;

Dialled number: "678"; CCI: "FF';

Ext1: 'FF'.

Record 7:

Coding: В1 B2 В3 B4 **B**5 B6 B7 B8 **B9** B10 B11 **B32 B33** 74 30 03 Hex 43 6F 6E 61 63 74 30 37 FF FF B35 **B34** B36 B37 **B38** B39 B40 B41 B42 B43 B44 B45 B46 91 76 F8 FF FF FF FF FF FF FF FF FF FF

EF_{EXT1} (Extension 1)

Logically: 4 records

Record 1: Record type: '02'

Extension data: "01234567890123456789";

Identifier: 'FF'.

Record 1:

Coding: В1 B2 В3 **B**4 **B5** B6 B7 В8 **B9** B10 B11 B12 **B13** Hex 02 0A 10 32 54 76 98 10 32 54 76 98 FF

Record 2: Record type: '02'

Extension data: "99887766554433221100";

Identifier: '03'.

Record 2:

Coding: В1 B2 B4 **B5** B6 B7 B8 **B9** B10 B11 **B13** В3 **B12** Hex 02 0A 99 88 77 66 55 44 33 22 11 00 03

Record 3: Record type: '02'

Extension data: "11p12345";

Identifier: 'FF'.

Record 3:

Coding: В1 B2 В3 B4 **B**5 B6 B7 B8 B9 B10 B11 B12 **B13** 02 04 11 1C 32 54 FF FF FF FF FF FF FF Hex

Record 4: Record type: '00'

Extension data: empty; Identifier: 'FF'.

Record 4:

Coding: В1 B2 В3 B4 B5 B6 B7 B8 **B9** B10 B11 B12 **B13** FF FF FF FF 00 FF FF FF FF FF FF FF Hex FF

8.1.3.1.4.2 Procedure

a) The terminal is switched on and the USIM application shall be activated.

b) The user shall use an MMI dependent procedure to select the global phonebook.

- c) The user shall change the BCD number of the entry "Contact002" to "22446622446622446600777888999". If the maximum number of BCD digits supported for the global phonebook update is less than in the requested input BCD number string, then the user shall enter the BCD number string as requested, but only up to the maximum number of BCD digits which are supported for updating.
- d) The user shall extend the BCD number of the entry "Contact007" to "01234567890123456789777888999".. If the maximum number of BCD digits supported for the global phonebook update is less than in the requested input BCD number string, then the user shall enter the BCD number string as requested, but only up to the maximum number of BCD digits which are supported for updating.
- e) The user shall delete the phonebook entry "Contact001".
- f) The user shall set the BCD number of the entry "Contact002" to "22446622446600"
- g) The user shall create the new phonebook entry "NewContact" with the BCD number "1234567890123456789012345678901234567890123456789012"... If the maximum number of BCD digits supported for the global phonebook update is less than in the requested input BCD number string, then the user shall enter the BCD number string as requested, but only up to the maximum number of BCD digits which are supported for updating.
- h) The user shall delete the phonebook entry "Contact003".
- i) The terminal is switched off.

8.1.3.1.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application.
- 2) After step b) the terminal shall have selected the global phonebook and shall have read EF_{PBR} in the global phonebook.
- 3) After step c) the global phonebook shall contain a record with "22446622446622446600" as BCD number and "04" as extension record identifier. EF_{EXT1} shall contain a record with "Additional data" as record type, the BCD number extension "777888999" and "FF" as identifier to indicate the end of the chain. If the maximum number of BCD digits supported for global phonebook updating is less than in the requested input BCD number, then EF_{ADN} and EF_{EXT1} shall contain the BCD number as entered on the MMI.
- 4) After step d) the terminal shall have taken action to prevent storage of the extended BCD number, e.g. by giving an indication to the user or not allowing to enter the extended number. EF_{EXT1} shall have not been updated and the extension record identifier of the entry "Contact007" shall remain as "FF".
- 5) After step e) records of EF_{ADN} and EF_{EXT1} which were used to store the data for the phonebook entry "Contact001" shall be empty, i.e. the EF_{ADN} record shall be "FF... FF" and the EF_{EXT1} record shall be "00FF... FF."
- 6) After step f) the record of EF_{EXT1} which was used to store the BCD number extension "777888999" shall be empty and the record used for storing the entry with the alpha identifier "Contact002" of EF_{ADN} shall contain the BCD number "22446622446600" and the extension record identifier "FF".
- 7) After step g) a record of EF_{ADN} shall contain "NewContact" as alpha identifier, "12345678901234567890" as BCD number and shall use an extension record identifier unequal to "FF".
 - The EF_{EXT1} record which was indicated in the EF_{ADN} record used in this case shall contain "Additional data" as record type, "12345678901234567890" as BCD number and an extension record identifier unequal to "FF", while the EF_{EXT1} record used to continue the chain inside EF_{EXT1} shall contain "Additional data" as record type, "123456789012" as BCD number and "FF" as extension record identifier.
 - If the maximum number of BCD digits supported for global phonebook updating is less than the requested input BCD number, then EF_{ADN} and EF_{EXT1} shall contain the BCD number as entered on the MMI.
- 8) After step h) the record of EF_{ADN} which was used to store the data for "Contact003" and the related records of EF_{EXT1} shall be empty.

8.1.4 Phonebook selection

8.1.4.1 Definition and applicability

The UICC may contain a global phonebook, or application specific phonebooks, or both in parallel. When both phonebook types co-exist, they are independent and no data is shared. In this case, it shall be possible for the user to select which phonebook the user would like to access.

8.1.4.2 Conformance requirement

The terminal shall support the global and the application specific phonebooks as defined in TS 31.102 [4], clause 4.4.2.

Reference:

- TS 31.102 [4], clause 4.4.2.

8.1.4.3 Test purpose

- 1) To verify that the terminal offers a possibility to select which phonebook the user would like to select if both, the global and the local phonebook, co-exist.
- 2) To verify that the data contained in the local phonebook can be read and updated correctly.
- 3) To verify that the data contained in the global phonebook can be read and updated correctly.

8.1.4.4 Method of test

8.1.4.4.1 Initial conditions

The terminal is connected to the USIM Simulator.

The default USIM is used with the following exceptions:

The local and the global phonebook are both present.

The local phonebook shall contain:

EF_{PBR} (Phonebook reference file)

Logically: Only EF_{ADN} and EF_{EXT1} are present in the local phonebook.

EF_{ADN} (Abbreviated dialling numbers)

Logically: 10 records, each record non-empty and unique.

Record 4: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact004";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 004; CCI: 'FF'; Ext1: 'FF'.

Record 4:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	 B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	34	FF	FF	03
	B34	B35	B36 F4	B37 FF	B38 FF	B39 FF		B46					

Record 5: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact005";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 1234; CCI: 'FF'; Ext1: None.

Record 5:

Coding: В1 B2 В3 B4 **B**5 B6 В7 B8 В9 B10 **B11** B32 **B33** FF Hex 43 6F 6E 74 61 63 74 30 30 35 FF 03

> B34 B35 B36 B37 B38 B39 ... B46 91 21 43 FF FF FF ... FF

The global phonebook shall contain:

EF_{PBR} (Phonebook reference file)

Logically: Only EF_{ADN} is present in the global phonebook.

EF_{ADN} (Abbreviated dialling numbers)

Logically: 8 records, records 3 and 6 empty, each non-empty record unique.

Record 1: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact001";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 001; CCI: 'FF'; Ext1: 'FF'.

Record 1:

B5 В9 Coding: **B1** B2 В3 **B4 B6** B7 **B8** B10 B11 **B32 B33** 43 6F 6E 74 63 74 30 30 31 03 Hex 61

> B34 B35 B36 B37 B38 B39 ... B46 91 00 F1 FF FF FF ... FF

Record 2: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact002";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 002; CCI: 'FF'; Ext1: 'FF'.

Record 2:

Coding: **B**1 B2 В3 B4 **B**5 B6 B7 B8 B9 **B10 B11 B32 B33** Hex 43 6F 6E 74 61 63 74 30 30 32 FF FF 03

> B34 B35 B36 B37 B38 B39 ... B46 91 00 F2 FF FF FF ... FF

Record 4: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact004";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 0041; CCI: 'FF'; Ext1: 'FF'.

Record 4:

Coding: **B**1 B2 В3 B4 **B5** B6 B7 **B8** B9 B10 B11 **B32** B33 74 34 43 74 30 30 FF FF 03 Hex 6F 6E 61 63

> B34 B35 B36 B37 B38 B39 ... B46 91 00 14 FF FF FF ... FF

Record 5: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact005";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 1234; CCI: 'FF'; Ext1: 'FF'.

Record 5:

Coding: В1 B2 В3 В4 **B**5 B6 В7 В8 В9 B10 B11 **B32** B33 Hex 43 6F 6E 74 61 63 74 30 30 35 FF FF 03 ...

> B34 B35 B36 B37 B38 B39 ... B46 91 21 43 FF FF FF ... FF

Record 7: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact007";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 007; CCI: 'FF'; Ext1: 'FF'.

Record 7:

Coding: В1 B2 В3 B4 **B**5 B6 B7 В8 В9 B10 B11 B32 B33 30 6F 6E 74 61 63 30 FF FF 03 Hex 43 74 37

> B34 B35 B36 B37 B38 B39 ... B46 91 00 F7 FF FF FF ... FF

Record 8: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact008";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 008; CCI: 'FF'; Ext1: 'FF'.

Record 8:

Coding: B1 B2 В3 B4 **B**5 B6 B7 B8 **B9** B10 B11 **B32** B33 Hex 43 6F 6E 74 61 63 74 30 30 38 FF FF 03

> B34 B35 B36 B37 B38 B39 ... B46 91 00 F8 FF FF FF ... FF

8.1.4.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall use an MMI dependent procedure to select the global phonebook.
- c) The global phonebook record with the alpha identifier "Contact005" and the associated dialling number shall be read by the user.
- d) The dialling number of the global phonebook record with the alpha identifier "Contact005" shall be set to "+1122330".
- e) A new entry with the values "Contact006" as alpha identifier and "+9876543210" as associated dialling number shall be added to the global phonebook.
- f) The user shall use an MMI dependent procedure to select the local phonebook.
- g) The local phonebook record with the alpha identifier "Contact005" and the associated dialling number shall be read by the user.
- h) The dialling number of the local phonebook record with the alpha identifier "Contact005" shall be set to "+11223345".
 - i) The user shall try to add a new entry with the values "Contact007" as alpha identifier and "+007" as associated dialling number to the local phonebook.
- j) The user shall delete the entry "Contact004" from the local phonebook.
- k) The user shall add a new entry with the values "Contact007" as alpha identifier and "+007" as associated dialling number to the local phonebook.
- 1) The user shall use an MMI dependent procedure to select the global phonebook.
- m) The user shall delete the entry "Contact007" from the global phonebook.
- n) The terminal is switched off.

8.1.4.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the local Phonebook in EF_{UST}.
- 2) After step b) the terminal shall have selected the global phonebook and shall have read EF_{PBR} in the global phonebook.
- 3) After step c) the terminal shall have read the global phonebook record which is used to store the enrty "Contact005" and shall have presented the alpha identifier "Contact005" and the dialling number "+1234" to the user.
- 4) After step d) EF_{ADN} in the global phonebook shall contain a record with the alpha identifier "Contact005" with the new dialling number "+1122330" and the terminal shall have given an indication to the user that the phonebook update has been performed successfully.
- 5) After step e) a new record shall have been added to EF_{ADN} in the global phonebook with the alpha identifier "Contact006" and the dialling number string "+9876543210".
- 6) After step f) the terminal shall have selected the local phonebook and shall have read EF_{PBR} in the local phonebook.
- 7) After step g) the terminal shall have read the local phonebook record which is used to store the entry "Contact005" and shall have presented the alpha identifier "Contact005" and the dialling number "+1234" to the user.
- 8) After step h) EF_{ADN} in the local phonebook shall contain a record with the alpha identifier "Conatct005" and with new dialling number "+11223345" and the terminal shall have given an indication to the user that the phonebook update has been performed successfully.

- 9) After step i) the terminal shall have given an indication that update of the local phonebook can't be performed. EF_{ADN} shall have not been updated.
- 10) After step j) the local phonebook record which was used to store the entry "Contact004" shall be empty and the terminal shall have indicated that the deletion of the phonebook entry was performed successfully.
- After step k) a new record shall have been added to EF_{ADN} in the local phonebook with the alpha identifier "Contact007" and the dialling number string "+007"
- 12) After step l) the terminal shall have selected the global phonebook and shall have read EF_{PBR} in the global phonebook.
- After step m) the global phonebook record which was used to store the entry "Contact007" shall be empty and the terminal shall have indicated that the deletion of the phonebook entry was performed successfully.

8.1.5 Local Phonebook handling

8.1.5.1 Definition and applicability

The UICC may contain a global phonebook, or application specific phonebooks, or both in parallel.

8.1.5.2 Conformance requirement

The terminal shall support the local phonebook as defined in TS 31.102 [4], clause 4.4.2.

Reference:

- TS 31.102 [4], clause 4.4.2.

8.1.5.3 Test purpose

- 1) To verify that the terminal supports the local phonebook without existence of the global phonebook.
- 2) To verify that the data contained in the local phonebook can be read and updated correctly.

8.1.5.4 Method of test

8.1.5.4.1 Initial conditions

The terminal is connected to the USIM Simulator.

The default USIM is used with the following exceptions:

The local phonebook is present, the global phonebook is not present.

The local phonebook shall contain:

EF_{PBR} (Phonebook reference file)

Logically: Only EF_{ADN} and EF_{EXT1} are present in the local phonebook.

EF_{ADN} (Abbreviated dialling numbers)

Logically: 10 records, each record non-empty and unique.

Record 4: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact004";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 004; CCI: 'FF'; Ext1: 'FF'.

Record 4:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	 B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	34	FF	FF	03
	B34 91	B35 00	B36 F4	B37 FF	B38 FF	B39 FF		B46 FF					

Record 5: Length of alpha identifier: 32 characters;

Alpha identifier: "Contact005";

Length of BCD number: "03";

TON and NPI: Telephony and International;

Dialled number: 1234; CCI: 'FF'; Ext1: 'FF'.

Record 5:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	 B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	35	FF	FF	03
	B34 91	B35 21	B36 43	B37 FF	B38 FF	B39 FF		B46 FF					

8.1.5.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall use an MMI dependent procedure to select the phonebook on the USIM (local phonebook).
- c) The local phonebook record with the alpha identifier "Contact005" and the associated dialling number shall be read by the user.
- d) The dialling number of the local phonebook record with the alpha identifier "Contact005" shall be set to "+11223345" and the alpha identifier shall be changed to "Contact89012345678901234.
- e) The user shall try to add a new entry with the values "Contact007" as alpha identifier and "+007" as associated dialling number to the local phonebook.
- f) The user shall delete the entry "Contact004" from the local phonebook.
- g) The user shall add a new entry with the values "Contact007" as alpha identifier and "+007" as associated dialling number to the local phonebook.
- h) The terminal is switched off.

8.1.5.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the local Phonebook in EF_{UST}.
- 2) After step b) the terminal shall have selected the local phonebook and shall have read EF_{PBR} in the local phonebook.
- 3) After step c) the terminal shall have read the local phonebook record which is used to store the entry "Contact005" and shall have presented the alpha identifier "Contact005" and the dialling number "+1234" to the user.
- 4) After step d) EF_{ADN} in the local phonebook shall contain a record with the new alpha identifier "Contact890123456789012" and the dialling number "+11223345" and the terminal shall have given an indication to the user that the phonebook update has been performed successfully.

- 5) After step e) the terminal shall have given an indication that update of the local phonebook can't be performed. EF_{ADN} shall have not been updated.
- 6) After step f) the local phonebook record which was used to store the entry "Contact004" in the local phonebook shall be empty and the terminal shall have indicated that the deletion of the phonebook entry was performed successfully.
- 7) After step g) a new record shall have been added to EF_{ADN} in the local phonebook with the alpha identifier "Contact007" and the dialling number string "+007"

8.2 Short message handling report

8.2.1 Correct storage of a SM on the USIM

8.2.1.1 Definition and applicability

Once a SMS is received by the UE, the Terminal shall store the SM on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SM). For this it is assumed, that at least one relevant SMS field are available on the USIM and they are indicated as empty.

8.2.1.2 Conformance requirement

The received class 2 SMS shall be stored on the USIM in EF_{SMS}. The status of a received SMS, which has not been read yet, shall be set to "3" (SMS to be read).

- TS 23.038 [3], clause 4.
- TS 23.040 [13], clause 10.1, operation 6;
- TS 24.011, clauses 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)
- TS 31.102 [4], clauses 4.2.25.

8.2.1.3 Test purpose

- 1) To verify that the Terminal stored correctly the class 2 SMS on the USIM.
- 2) To verify that the Terminal sets the status of a received, and not yet read SMS to "3" (SMS to be read)

8.2.1.4 Method of test

8.2.1.4.1 Initial conditions

The default UICC is used with the following exceptions:

1) EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available

The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Byte:	B1	B2	B3	B4	B5
Binary	xx1x xx11	xxxx X11x	xxxx 1x00	xxxx x1xx	xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

2) EF_{SMS} (Short Message Service) and EF_{SMSS} (SMS Status) as defined in 8.2.4.4.1.

The USS (in case of a Terminal accessing UTRAN)/SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

The USS/SS transmits the class 2 short message with the parameters as defined in 8.2.4.4.1.

User Equipment:

The UE is connected to the USIM-Simulator and the USS/SS.

8.2.1.4.2 Procedure

CS related sequence for UTRAN/GERAN

Perform the "CS related procedure" and continue with "Generic Procedure 1" as defined clause 8.2.4.4.2 as test "8.2.1" with the following parameters:

- Applicable Network Simulator (NWS): USS (UMTS System Simulator or System Simulator)
- CS is used to send and receive short messages
- ME supports UTRAN or GERAN

CS related procedure:

- a) The ME is switched on and will perform the Profile Download, USIM initialization and network registration.
- b) Continue with step c) of the Generic Procedure 1 as defined in 8.2.4.4.2.

8.2.1.5 Acceptance criteria

1) After step c) the record of the USIM EF_{SMS} which was empty, shall contain the values as defined in 8.2.4.5

8.2.2 Correct reading of a SM on the USIM

8.2.2.1 Definition and applicability

A SM which is stored but not yet read, is indicated as Status "3" (SMS to be read) on EF_{SMS} . The Terminal may indicate the user this status. After the SMS is read by the user, the status of the SMS shall be changed to "1" (SMS read).

8.2.2.2 Conformance requirement

A received SM was stored on the USIM in EF_{SMS} . At the time the SMS is read by the user, the status of a received SMS, shall be changed to "1" (SMS read).

- TS 23.038 [3], clause 4.

- TS 23.040 [13];
- TS 31.102 [4], clauses 4.2.25 and 4.2.28.

8.2.2.3 Test purpose

- 1) To verify that the Terminal read correctly the SMS on the USIM.
- 2) To verify that the Terminal changes the status of a read SMS to "1" (SMS read).

8.2.2.4 Method of test

8.2.2.4.1 Initial conditions

The default UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xx1x xx11
 xxxx X11x
 xxxx 1x00
 xxxx x1xx
 xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{SMSS} (SMS Status)

Logically: Last used TP-MR not set.

Memory capacity available (flag unset b1="1").

Coding: B1 B2 Hex FF FF

$EF_{SMS} \ (Short \ Message \ Service)$

Logically: Status byte set to SMS to be read.

A chosen test is written in the text body of the EF_{SMS}.

Record 1:

Coding: В1 B2 В3 B4 **B5** B6 B7 **B8 B9** B10 B11 B12 B176 03 Hex XX XX XX XX XX XXXX XXXXXX XX XX

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]

which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

no text is written (Remainder Bytes set to "FF").

Record:

Coding:	B1	B2	B3	B4	B5	В6	B7	B8	B9	B10	B11	B12	 B176
Hex	00	FF	FF	FF	 FF								

A USS (in case of a Terminal accessing UTRAN) or a SS (in case of a Terminal accessing GERAN) is only needed to bring the UE into a defined idle mode. The USS/SS transmits on the BCCH:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

8.2.2.4.2 Procedure

- a) After the UE has brought in idle state, the SMS shall be read.
- b) The UE is powered off.

8.2.2.5 Acceptance criteria

- 1) After a) the correct text of the SMS shall be read from the UE display.
- 2) After step b) the EF_{SMS} record 1 shall contains the following values:

Logically: Status byte set to SMS read.

The entire content of the SMS shall be unchanged.

Record 1:

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Hex	01	XX	XX	XX	 XX								

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3] which represents the stored SMS.

8.2.3 SM memory capacity exceeded handling

8.2.3.1 Definition and applicability

Once a SMS is received by the UE, the Terminal shall store the SM on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SM). For this it is assumed, that at least one relevant SMS field are available on the USIM and they are indicated as empty. If all SMS data field are full and furthermore all memory capacity reserved for SMS inside the ME is filled up to maximum and a SM was rejected, then this shall be indicated in the SMS Status file.

8.2.3.2 Conformance requirement

The received class 2 SMS shall be stored on the USIM in EF_{SMS} . The status of a received SMS, which has not been read yet, shall be set to "3" (SMS to be read). If the terminal notifies the network that the terminal has been unable to accept a short message because its memory capacity has been exceeded, then the ME shall set the Memory Capacity Exceeded Notification Flag in the EF_{SMSS} .

- TS 23.038 [3], clause 4.
- TS 23.040 [13], clause 10.1, operation 6;
- TS 24.011, clauses 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)

- TS 31.102 [4], clauses 4.2.25 and 4.2.28.

8.2.3.3 Test purpose

- 1) To verify that the Terminal stored correctly the class 2 SMS on the USIM.
- 2) To verify that the Terminal sets the status of a received, and not yet read SMS to "3" (SMS to be read).
- 3) To verify that the Terminal sets the memory full flag in EF_{SMSS} if the terminal notifies the network that the terminal has been unable to accept a short message because its memory capacity has been exceeded.

8.2.3.4 Method of test

8.2.3.4.1 Initial conditions

The default UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xx1x xx11
 xxxx X11x
 xxxx 1x00
 xxxx x1xx
 xxxx xxx1

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{SMS} (Short Message Service)

At least 10 records. Record 1 shall be empty.

Logically: Status byte set to empty.

Record 1:

Coding: B10 B176 **B1** B2 **B**3 **B5** B6 **B12** FF FF FF FF FF 00 FF FF FF FF Hex FF FF

All other Record shall be full.

Logically: Status byte set to SMS read.

The text body of the record shall be filled with any appropriate text.

Records:

Codina: **B1** B2 В3 **B4 B5 B6 B7 B8 B9** B10 B11 **B12** B176 Hex 01 XX XX XX

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3] which represents the received SMS.

EF_{SMSS} (SMS Status)

Logically: Last used TP-MR not defined.

Memory capacity available (flag unset b1="1").

Coding: B1 B2 Hex FF FF

The USS (in case of a Terminal accessing UTRAN) /SS (in case of a Terminal accessing a GERAN) transmits on the BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

The USS/SS transmits the short messages with the following parameters:

Logically:

Class 2 SM:TS-Service Centre Address:

Bit 8: 1

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

TP-Message-Type-Indicator: SMS-DELIVER (in the direction SC to MS)

TP-More-Messages-to-Send: No more messages are waiting for the MS in this SC

TP-Reply-Path: TP-Reply-Path parameter is not set in this SMS-DELIVER

TP-User-Data-Header-Indicator: The TP-UD field contains only the short message

TP-Status-Report-Indication: A status report shall be returned to the SME

Bits 4-3: 00

TP-Originating-Address:

Bit 8: 1

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this..."

Class 1 SM:

The same content as for the Class 2 SMS except:

SMS TPDU:

TP-More-Messages-to-Send: More messages are waiting for the MS in this SC

TP-Data-Coding-Scheme:

Bits 2-1: Class 1: default meaning: ME-specific

TP-Service-Centre-Time-Stamp: Always set to current time of the system simulator

User Equipment:

The UE is in MM-state "idle, updated". If there is ME storage capacity available the storage for SMS inside the ME shall be able to allow for at least one more mobile terminated (e.g. Class 1) SM.

8.2.3.4.2 Procedure

- a) After the UE is set to idle mode, the defined class 2 SM defined in 8.2.1.4.1 with 160 characters shall be sent to the UE.
- b) After the UE has indicated that a SM was received, the SM shall not be read.
- c) The USS starts sending Class 1 SMs as defined in 8.2.1.4.1 until the UE sends an RP-ERROR message with cause "Memory capacity exceeded".
- d) The UE is powered off.

8.2.3.5 Acceptance criteria

1) After step b) the record of the EF_{SMS} which was empty, shall contain the following values:

Logically: Status byte set to SMS to be read

The text of the received SMS shall be present in the record.

Record 1:

Logically:

Status:

RFU bits 8-6: 000

Status: Used space, message received by UE from network, message to be read

TS-Service Centre Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

SMS-DELIVER (in the direction SC to UE) TP-Message-Type-Indicator:

TP-More-Messages-to-Send: No more messages are waiting for the UE in this SC

TP-Reply-Path: TP-Reply-Path parameter is not set in this SMS-DELIVER

TP-User-Data-Header-Indicator: The TP-UD field contains only the short message

TP-Status-Report-Indication: A status report shall be returned to the SME

Bits 4-3: 00

TP-Originating-Address:

Bit 8: 1

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this ..."

Codina

Couling.																
Hex	03	07	91	11	22	33	44	55	66	24	0C	91	10	32	44	55
	66	77	00	12	20	30	40	90	31	60	40	A0	4F	F7	B8	0C
	0A	83	A6	CD	29	28	3D	07	C9	CB	E3	72	DA	5E	26	83
	C4	79	10	1D	5D	06	55	8B	2C	10	1D	5D	06	51	CB	F2
	76	DA	1D	66	83	E6	E8	30	9B	0D	9A	D3	DF	F2	32	88
	8E	2E	83	A6	CD	29	E8	ED	06	D1	D1	65	50	75	9A	6C
	B2	40	69	33	88	8E	4E	CF	41	E9	39	28	ED	26	Α7	C7
	61	7A	99	0C	12	E7	41	74	74	19	34	66	87	E7	73	90
	0C	F4	36	83	E8	E8	32	68	DA	9C	82	50	D5	69	B2	09
	9A	C3	CB	E3	B4	39	3D	06	4D	9B	D3	94	0B	64	7C	CB
	41	74	74	7A	0E	72	B9	5C								

After step d) the Memory Capacity Exceeded Notification Flag in the EF_{SMSS} shall be set to 7) exceeded.

EF_{SMSS} (SMS Status)

Logically: Last used TP-MR shall be set to any appropriate value.

Memory capacity exceeded (flag set b1="0").

Coding: B1 B2 Hex xx FE

8.2.4 Correct storage of an SM on the UICC

8.2.4.1 Definition and applicability

For IMS: When a SIP MESSAGE request including a short message in the "vnd.3gpp.sms" payload is delivered and the extracted RP-DATA payload contains a Class 2 SM (USIM specific SM) the terminal shall store the SM on the USIM or ISIM. For this it is assumed, that at least one relevant SMS field are available on the USIM or ISIM and they are indicated as empty.

That the UE correctly implemented the role of an SMS-over-IP receiver is tested in clause 18.2 of TS 34.229-1 [33].

8.2.4.2 Conformance requirement

As TS 31.103[32] and TS 31.102[4] do not indicate in which of both applications a SM received via IMS shall be stored, the received Class 2 SM received via IMS shall be stored in EF_{SMS} either on the USIM or on the ISIM. The status of a received SMS, which has not been read yet, shall be set to "3" (SMS to be read).

- TS 23.038 [3], clause 4.
- TS 23.040 [13], clause 10.1, operation 6;
- TS 24.011, clauses 7.3.1.1, 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)
- TS 31.102 [4], clauses 4.2.25,
- TS 31.103 [32], clauses 4.2.12,
- TS 34.229 [33], Annexes C.2, C.18 and 18.2.

8.2.4.3 Test purpose

- 1) To verify that the Terminal stored correctly the class 2 SMS on the USIM or the ISIM.
- 2) To verify that the Terminal sets the status of a received, and not yet read SMS to "3" (SMS to be read).

8.2.4.4 Method of test

8.2.4.4.1 Initial conditions

The E-UTRAN/EPC ISIM-UICC is used with the following exception:

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

Byte:	B1	B2	B3	B4	B5
Binary	xx1x xx11	xxxx X11x	xxxx 1x00	xxxx x1xx	xxxx xx11

The coding of EF_{UST} shall conform with the capabilities of the USIM used.

EF_{SMS} (Short Message Service) – For USIM and ISIM

At least 10 records. Record 1 shall be empty.

Logically: Status byte set to empty.

Record 1:

All other Record shall be full.

Logically: Status byte set to SMS read.

The text body of the record shall be filled with any appropriate text.

Records:

Coding: B1 B2 B3 B4 **B5** B6 B7 B8 B9 B10 B11 **B12** B176 Hex 01

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]

which represents the received SMS.

EF_{SMSS} (SMS Status) – For USIM and ISIM

Logically: Last used TP-MR not defined.

Memory capacity available (flag unset b1="1").

Coding: B1 B2 Hex FF FF

The NWS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- USS LAI (MCC/MNC/LAC): 246/081/0001 (For UTRAN testing only)

- E-USS TAI (MCC/MNC/TAC): 246/081/0001 (For E-UTRAN testing only)

- Access control: unrestricted.

The NWS transmits the short messages with the following parameters:

Logically:

Class 2 SM: TS-Service Centre Address:

Bit 8: 1

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

TP-Message-Type-Indicator: SMS-DELIVER (in the direction SC to MS)

TP-More-Messages-to-Send: No more messages are waiting for the MS in this SC

TP-Reply-Path: TP-Reply-Path parameter is not set in this SMS-DELIVER

TP-User-Data-Header-Indicator: The TP-UD field contains only the short message

TP-Status-Report-Indication: A status report shall be returned to the SME

Bits 4-3: 00

TP-Originating-Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this..."

8.2.4.4.2 Procedure

Sequence A for IMS on UTRAN

- a) The ME activates the required bearer, discovers the P-CSCF, and registers with the values from the ISIM with the IMS services (see Note 2).
- b) Continue with step c) in the Generic Procedure 1.

Sequence B for IMS on E-UTRAN

- a) The ME activates the required bearer, discovers the P-CSCF, and registers with the values from the ISIM with the IMS services (see Note 3).
- b) Continue with step c) in the Generic Procedure 1.

Generic Procedure 1

c) After the UE is set to idle mode, the defined class 2 SM defined in 8.2.1.4.1 with 160 characters shall be sent to the UE (see Note 1) as specified in clause 18.2 of TS 34.229-1 [33] and use the SM payload defined in 8.2.1.4.1 in the Message-body of MESSAGE defined in clause A.7.1 in TS 34.229-1 [33].

- d) After the UE has indicated that a SM was received, the SM shall not be read.
- e) The UE is powered off.

Note 1: In case of IMS the Short Message is contained in the message body of the SIP MESSAGE.

Note 2: For E-UTRAN: The EPS bearer context activation according to the procedures defined in TS 34.229-1 [33], Annex C.2 and C.18 is performed.

Note 3: For UTRAN: For SMS-over-IP a PDP context activation according to the procedures defined in TS 34.229-1 [33], Annex C.2 and C.17 is performed.

8.2.4.5 Acceptance criteria

1) After step d) the record of the EF_{SMS} (on either the ISIM or USIM) which was empty, shall contain the following values:

Logically: Status byte set to SMS to be read

The text of the received SMS shall be present in the record.

Record 1:

Logically:

Status:

RFU bits 8-6: 000

Status: Used space, message received by UE from network, message to be read

TS-Service Centre Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

TP-Message-Type-Indicator: SMS-DELIVER (in the direction SC to UE)

TP-More-Messages-to-Send: No more messages are waiting for the UE in this SC

TP-Reply-Path: TP-Reply-Path parameter is not set in this SMS-DELIVER

TP-User-Data-Header-Indicator: The TP-UD field contains only the short message

TP-Status-Report-Indication: A status report shall be returned to the SME

Bits 4-3: 00

TP-Originating-Address:

Bit 8: 1

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this ..."

Coding:																
Hex	03	07	91	11	22	33	44	55	66	24	0C	91	10	32	44	55
	66	77	00	12	20	30	40	90	31	60	40	A0	4F	F7	B8	0C
	0A	83	A6	CD	29	28	3D	07	C9	CB	E3	72	DA	5E	26	83
	C4	79	10	1D	5D	06	55	8B	2C	10	1D	5D	06	51	CB	F2
	76	DA	1D	66	83	E6	E8	30	9B	0D	9A	D3	DF	F2	32	88
	8E	2E	83	A6	CD	29	E8	ED	06	D1	D1	65	50	75	9A	6C
	B2	40	69	33	88	8E	4E	CF	41	E9	39	28	ED	26	Α7	C7
	61	7A	99	0C	12	E7	41	74	74	19	34	66	87	E7	73	90
	0C	F4	36	83	E8	E8	32	68	DA	9C	82	50	D5	69	B2	09
	9A	C3	CB	E3	B4	39	3D	06	4D	9B	D3	94	0B	64	7C	CB
	41	74	74	7A	0E	72	B9	5C								

²⁾ The UE shall pass the requirements which are verified in the MT SMS test case specified in clause 18.2 of TS 34.229-1 [33].

8.2.5 Correct reading of a SM on the USIM if USIM and ISIM are present

8.2.5.1 Definition and applicability

A SM which is stored but not yet read, is indicated as Status "3" (SMS to be read) on EF_{SMS} . The Terminal may indicate the user this status. After the SMS is read by the user, the status of the SMS shall be changed to "1" (SMS read). This applies to short messages stored on the USIM and to short messages stored on the ISIM.

8.2.5.2 Conformance requirement

A received SM was stored in EF_{SMS} on the ISIM and another SM was stored in EF_{SMS} on the USIM. The user shall be able to read short messages stored on the USIM. At the time the SMS is read by the user, the status of a received SMS, shall be changed to "1" (SMS read).

- TS 23.038 [3], clause 4.
- TS 23.040 [13];
- TS 31.102 [4], clauses 4.2.25 and 4.2.28,
- TS 31.103 [32], clauses 4.2.12 and 4.2.13.

8.2.5.3 Test purpose

- 1) To verify that the Terminal correctly reads the SMS on the USIM if the USIM and ISIM are both present.
- 2) To verify that the Terminal changes the status of a read SMS to "1" (SMS read) of the message read from the USIM.

8.2.5.4 Method of test

8.2.5.4.1 Initial conditions

The E-UTRAN/EPC ISIM-UICC is used with the following exception:

EF_{UST} (USIM Service Table)

As defined in in clause 4.5.2 with the expection that services $n^{\circ}10$ (Short Message Storage) and $n^{\circ}11$ (SMS Status Report) are available.

EF_{SMSS} (SMS Status) on the USIM and on the ISIM

Logically: Last used TP-MR not set.

Memory capacity available (flag unset b1="1").

Byte:	B1	B2
Hex:	FF	FF

EF_{SMS} (Short Message Service) on the USIM

Logically: Status byte set to SMS to be read.

A chosen test is written in the text body of the EF_{SMS}. This content shall be different from the

content stored in EF_{SMS} in the ISIM.

Record 1:

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176	
Hex	03	XX	XX	XX		XX									
NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]															
	which represents the stored SMS.														

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3] which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

no text is written (Remainder Bytes set to "FF").

Record:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Hex	00	FF	FF	FF	 FF								

EF_{SMS} (Short Message Service) on the ISIM

Logically: Status byte set to SMS to be read.

A chosen test is written in the text body of the EF_{SMS} . This content shall be different from the

content stored in EF_{SMS} in the USIM.

Record 1:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176
Hex:	03	уу	уу	уу	Yy	уу	уу	уу	уу	уу	уу	уу		уу
NOTE: "yy" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]														
	which	represe	ents the	stored \$	SMS.									

NOTE: "yy" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3] which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

no text is written (Remainder Bytes set to "FF").

Record:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Hex:	00	FF	FF	FF	 FF								

EF_{SMS} on the USIM and EF_{SMS} on the ISIM shall not share the same memory.

EF_{SMSS} on the USIM and EF_{SMSS} on the ISIM shall not share the same memory.

User Equipment:

The User Equipment is connected to the E-UTRAN/EPC ISIM-UICC.

8.2.5.4.2 Procedure

- a) The UE is switched on.
- b) The user shall read the SMS stored on the USIM.
 - 3) After step b) the EFSMS and EFSMSS on the ISIM shall remain unchanged.
- c) The UE is switched off

8.2.5.5 Acceptance criteria

- 1) After b) the correct text of the SMS on the USIM shall be read and be displayed to the user.
- 2) After step b) the EF_{SMS} record 1 of the USIM shall contains the following values:

Logically: Status byte set to SMS read.

The entire content of the SMS shall be unchanged.

Record 1:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176
Hex:	01	XX	XX	XX	Xx	XX	XX	XX	XX	XX	XX	XX		XX
NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]														
	which	represe	nts the	stored S	SMS.									

8.2.6 Correct reading of a SM on the ISIM if USIM and ISIM are present

8.2.6.1 Definition and applicability

A SM which is stored but not yet read, is indicated as Status "3" (SMS to be read) on EF_{SMS} . The Terminal may indicate the user this status. After the SMS is read by the user, the status of the SMS shall be changed to "1" (SMS read). This applies to short messages stored on the USIM and to short messages stored on the ISIM.

8.2.6.2 Conformance requirement

A received SM was stored in EF_{SMS} on the ISIM and another SM was stored in EF_{SMS} on the USIM. The user shall be able to read short messages stored on the ISIM. At the time the SMS is read by the user, the status of a received SMS, shall be changed to "1" (SMS read).

- TS 23.038 [3], clause 4.

- TS 23.040 [13];
- TS 31.102 [4], clauses 4.2.25 and 4.2.28,
- TS 31.103 [32], clauses 4.2.12 and 4.2.13.

8.2.6.3 Test purpose

- 1) To verify that the Terminal correctly reads the SMS on the ISIM if the USIM and ISIM are both present.
- 2) To verify that the Terminal changes the status of a read SMS to "1" (SMS read) of the message read from the ISIM.

8.2.6.4 Method of test

8.2.6.4.1 Initial conditions

The E-UTRAN/EPC ISIM-UICC is used with the following exception:

EF_{UST} (USIM Service Table)

As defined in in clause 4.5.2 with the expection that services $n^{\circ}10$ (Short Message Storage) and $n^{\circ}11$ (SMS Status Report) are available.

EF_{SMSS} (SMS Status) on the USIM and on the ISIM

Logically: Last used TP-MR not set.

Memory capacity available (flag unset b1="1").

Byte:	B1	B2
Hex:	FF	FF

EF_{SMS} (Short Message Service) on the USIM

Logically: Status byte set to SMS to be read.

A chosen test is written in the text body of the EF_{SMS}. This content shall be different from the

content stored in EF_{SMS} in the ISIM.

Record 1:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176
Hex	03	XX	XX	XX	Xx	XX	XX	XX	XX	XX	XX	XX		XX
NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]														
	which	represe	nts the	stored S	SMS.									

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3] which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

no text is written (Remainder Bytes set to "FF").

Record:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Hex	00	FF	FF	FF	 FF								

EF_{SMS} (Short Message Service) on the ISIM

Logically: Status byte set to SMS to be read.

A chosen test is written in the text body of the EF_{SMS} . This content shall be different from the content stored in EF_{SMS} in the USIM.

Record 1:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176
Hex:	03	уу	уу	уу	Yy	уу	уу	уу	уу	уу	уу	уу		уу
NOTE: "yy" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]														
	which	represe	nts the	stored S	SMS.									

NOTE: "yy" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]

which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

no text is written (Remainder Bytes set to "FF").

Record:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	 B176
Hex:	00	FF	FF	FF	 FF								

 EF_{SMS} on the USIM and EF_{SMS} on the ISIM shall not share the same memory.

EF_{SMSS} on the USIM and EF_{SMSS} on the ISIM shall not share the same memory.

User Equipment:

The User Equipment is connected to the E-UTRAN/EPC ISIM-UICC.

8.2.6.4.2 Procedure

- a) The UE is switched on.
- b) The user shall read the SMS stored on the USIM.
- c) The UE is switched off

8.2.6.5 Acceptance criteria

- 1) After b) the correct text of the SMS on the ISIM shall be read and be displayed to the user.
- 2) After step b) the EF_{SMS} record 1 of the ISIM shall contains the following values:

Logically: Status byte set to SMS read.

The entire content of the SMS shall be unchanged.

Record 1:

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12		B176
Hex:	01	уу	уу	уу	уу	уу	уу	уу	уу	уу	уу	уу		Yy
NOTE: "yy" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in TS 23.038 [3]														
	which	represe	nts the	stored S	SMS.									

3) After step b) the EF_{SMS} and EF_{SMSS} on the USIM shall remain unchanged.

8.2.7 Correct storage of an SM on the UICC

8.2.7.1 Definition and applicability

Once a SMS is received by the UE, the Terminal shall store the SM on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SM). For this it is assumed, that at least one relevant SMS field is available on the USIM and indicated as empty

8.2.7.2 Conformance requirement

The received class 2 SMS shall be stored on the USIM in EF_{SMS}. The status of a received SMS, which has not been read yet, shall be set to "3" (SMS to be read).

- TS 23.038 [3], clause 4.
- TS 23.040 [13], clause 10.1, operation 6;
- TS 24.011, clauses 7.3.1.1, 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)
- TS 31.102 [4], clauses 4.2.25.
- TS 24.301 [26], clauses 5.6.3, 5.6.3.3.

8.2.7.3 Test purpose

- 1) To verify that the Terminal stored correctly the class 2 SMS on the USIM.
- 2) To verify that the Terminal sets the status of a received, and not yet read SMS to "3" (SMS to be read).

8.2.7.4 Method of test

8.2.7.4.1 Initial conditions

The default E-UTRAN UICC is used with the following exceptions

3) EF_{SMS} (Short Message Service) and EF_{SMSS} (SMS Status) as defined in 8.2.4.4.1.

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

- Attach/detach: disabled.

- TAI (MCC/MNC/TAC): 246/081/0001

- Access control: unrestricted.

The NB-SS transmits the class 2 short message with the parameters as defined in 8.2.4.4.1.

8.2.7.4.2 Procedure

- a) The ME is switched on and will perform USIM initialization and network registration.
- b) SMS over SGs (DOWNLINK NAS TRANSPORT and UPLINK NAS TRANSPORT messages) is used to send and receive short messages.
- c) Continue with step c) of the Generic Procedure 1 as defined in 8.2.4.4.2.

8.2.7.5 Acceptance criteria

1) After step c) the record of the USIM EF_{SMS} which was empty, shall contain the values as defined in 8.2.4.5

8.3 MMS related tests

8.3.1 UE recognising the priority order of MMS Issuer Connectivity Parameters

8.3.1.1 Definition and applicability

An MMS User Agent shall use the MMS related information stored in the USIM, if present, unless otherwise specified by the user. Some of these sets of MMS connectivity parameters are preset by the issuer of the USIM with the first supported set being the default. This information is used to connect to the network for purpose of accessing the MMS Relay/Server.

The MMS connectivity information on the USIM includes preferences for the selection of Interface to Core Network and Bearer parameters. If these are stored on the USIM the MMS-capable UE shall automatically select the Interface to Core Network and Bearer parameters based on their order of precedence defined on the USIM unless otherwise specified by the user.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs (e.g. default values for parameters that are often used).

8.3.1.2 Conformance requirement

The Terminal's MMS User Agent shall use the MMS connectivity parameters stored first in the supported parameter sets of EF_{MMSICP} as default parameters to connect to the network for MMS purposes (i.e. sending an User generated MM).

- TS 31.102 [4], clauses 4.2.69 and 5.3.30;
- TS 23.140 [23], clause 7.1.14 and Annex F.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs.

- TS 31.102 [4], clauses 4.2.70 and 5.3.31;
- TS 23.140 [23], clause 7.1.14 and Annex F.

8.3.1.3 Test purpose

- 1) To verify that the Terminal's MMS User Agent uses the MMS connectivity parameter stored on the USIM to connect to the network for MMS purposes.
- 2) To verify that the Terminal's MMS User Agent uses the first stored set of supported parameters in EF_{MMSICP} as default.
- 3) To verify that the Terminal's MMS User Agent uses the MMS user preference information stored on the USIM for user assistance in preparation of terminal-originated MMs.

8.3.1.4 Method of test

8.3.1.4.1 Initial conditions

Four MMS Relays/Servers are available:

MMS Relay/Server 1:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+496998625" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

MMS Relay/Server 2:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+496998626" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

MMS Relay/Server 3:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B password1"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

MMS Relay/Server 4:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service no. 33 (Packed Switched Domain) shall be set to '1' Service no. 52 Multimedia Messaging Service available

Service no. 55 MMS User Connectivity Parameters not available

В3 B4 В7 Coding: R2 **B6**

xxxx xxx1 **Binary** xx1x xx11 x11x xxxx xxxx 1x00 xxxx x1xx XXXX XXXX x0xx 1xxx

EFMMSN

Logically:

MMS Status: Free space MMS Implementation: "00"

MMS Notification: "FF FF ... FF" (251 bytes)

Extension file record number: "FF"

B2 Coding: B1 В3 B4 **B**5 B254 B255

00 00 00 FF FF FF FF

EFMMSICP

Logically:

MMS Connectivity Parameters

MMS Implementation

MMS Implementation Information :

MMS Relay/Server

MMS Relay/Server Address"http://mms-operator1.com"

1st Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+496998625" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG MODEM"

Authentication type: "PAP" "B2B_OTS1" Authentication id: Authentication pw: "B2B_password1" 2nd Interface to Core Network and Bearer

"GSM-CSD" Bearer: "+496998626" Address: Type of address: "E164" "Autobauding" Speed:

"ANALOG_MODEM" Call type:

Authentication type: "PAP" "B2C_OTS2" Authentication id: Authentication pw: "B2C_password2" 3rd Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator1.com"

Type of address: "APN"

"ANALOG MODEM" Call type: Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10-5"

SDU-Error-Ratio: "1*10⁻⁶" Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"

4th Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway:

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

			-	_	• •							
Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	3A	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	31	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	36	39	39	38	36	32	35
	00	09	87	25	C5	0A	90	0C	9A	0D	42	32
	42	11	4F	54	53	31	00	0E	42	32	42	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	36	39	39	38	36	32
	36	00	09	87	25	C5	0A	90	0C	9A	0D	42
	32	43	11	4F	54	53	32	00	0E	42	32	43
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	31	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	42	32	42	11
	4F	54	53	31	00	0E	42	32	42	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	31	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	42	32	43	11	4F	54	53
	32	00	0E	42	32	43	11	70	61	73	73	77
	6F	72	64	32	00	83	43	20	31	37	30	2E
	31	38	37	2E	35	31	2E	33	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	31	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	31	00					

EFMMSUP

Logically:

```
MMS Implementation
     MMS implementation information: "WAP"
  MMS User Preference Profile Name: "Greeting cards"
  MMS User Information Preference Information
     Visibility: "hide"
     Delivery report: "yes"
     Read-reply: "yes"
     Priority: "normal"
     Delivery-Time:
        Value (absolute): "1-Jan-2003, 12:00:00 AM GMT"
        Value (relative): 1104537600 seconds
Coding:
                       01
                                                        65
                                                                     74
                                                                            69
                                                                                   6E
                                                  72
                                                                            80
                                                                                   06
          67
                20
                       63
                              61
                                    72
                                           64
                                                 73
                                                        82
                                                               19
                                                                      14
          80
                10
                       80
                              ٥F
                                    81
                                           07
                                                 07
                                                        80
                                                               05
                                                                     00
                                                                            3E
                                                                                   12
          2F
```

The UICC is installed into the Terminal and the user has indicated the data stored in EF_{MMSICP} as default.

8.3.1.4.2 Procedure

- a) The Terminal is powered on and the PIN shall be entered.
- b) When the Terminal is in idle mode the user shall generate an MM using the MMS User Agent on the Terminal with the default MMS connectivity settings provided by the card issuer and the MMS user preference information stored in the card and send it to "+0123456789".

8.3.1.5 Acceptance criteria

- 1) After step b) the Terminal shall have read the set of supported MMS connectivity parameters stored first in EF_{MMSICP}.
- 2) After step b) the Terminal shall have sent the MM to "+0123456789" using the MMS connectivity parameters stored first in the supported parameter sets in EF_{MMSICP}.
- 3) After step b) the Terminal shall have sent the MM to "+0123456789" using the MMS user preference information stored in EF_{MMSUP}.

8.3.2 UE recognising the priority order of MMS User Connectivity Parameters

8.3.2.1 Definition and applicability

An MMS User Agent shall use the MMS related information stored in the USIM, if present, unless otherwise specified by the user. The MMS connectivity parameters determined by the user, with the first supported set being the default, shall be used to connect to the network for purpose of accessing the MMS Relay/Server.

The MMS connectivity information on the USIM includes preferences for the selection of Interface to Core Network and Bearer parameters. If these are stored on the USIM the MMS-capable UE shall automatically select the Interface to Core Network and Bearer parameters based on their order of precedence defined on the USIM unless otherwise specified by the user.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs (e.g. default values for parameters that are often used).

8.3.2.2 Conformance requirement

When using the MMS User Connectivity Parameters to connect to the network for MMS purposes (i.e. sending an User generated MM), the Terminal's MMS User Agent shall use the MMS User Connectivity Parameters with the highest priority (as defined by its position in EF_{MMSUCP}) unless otherwise specified by the user.

- TS 31.102 [4], clauses 4.2.71 and 5.3.32;
- TS 23.140 [23], clause 7.1.14 and Annex F.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs.

- TS 31.102 [4], clauses 4.2.70 and 5.3.31;
- TS 23.140 [23], clause 7.1.14 and Annex F.

8.3.2.3 Test purpose

- 1) To verify that the Terminal's MMS User Agent uses the MMS connectivity parameter stored on the USIM to connect to the network for MMS purposes.
- 2) To verify that when using the MMS User Connectivity Parameters to connect to the network for MMS purposes the Terminal's MMS User Agent uses the set of supported parameters in EF MMSUCP with the highest priority (as defined by its position in EF_{MMSUCP}).
- 3) To verify that the Terminal's MMS User Agent uses the MMS user preference information stored on the USIM for user assistance in preparation of terminal-originated MMs.

8.3.2.4 Method of test

8.3.2.4.1 Initial conditions

Four MMS Relays/Servers are available:

MMS Relay/Server 1:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+495251699" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.4" Type of address: "Ipv4" Port: "9203" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user7"
Authentication pw: "gateway_password7"

MMS Relay/Server 2:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+495251700" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "UDO_OTS2"
Authentication pw: "Udo_password2"

Gateway

Address: "170.187.51.4" Type of address: "Ipv4" Port: "9203" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user7"
Authentication pw: "gateway_password7"

MMS Relay/Server 3:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator2.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.4" Type of address: "Ipv4" Port: "9203" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user7"
Authentication pw: "gateway_password7"

MMS Relay/Server 4:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator2.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "UDO_OTS2"
Authentication pw: "Udo_password2"

Gateway

Address: "170.187.51.4" Type of address: "Ipv4" Port: "9203" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user7"
Authentication pw: "gateway_password7"

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service no. 33 (Packed Switched Domain) shall be set to '1' Service no. 52 Multimedia Messaging Service available Service no. 55 MMS User Connectivity Parameters available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6
 B7

 Binary
 xx1x xx11
 x11x xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xxxx
 xxxxx xxxx
 xxxxx xxxx
 xxxx xxxx
 xxxx

EFMMSN

Logically:

MMS Status: Free space MMS Implementation: "00"

MMS Notification: "FF FF ... FF" (251 bytes)

Extension file record number: "FF"

Coding: B1 B2 B3 B4 B5 ... B254 B255 00 00 00 FF FF FF FF

EFMMSICP

Logically: Empty

Coding: B1 B2 ... Bxx

FF FF FF

EF_{MMSUP}

```
Logically:
```

MMS Implementation

MMS implementation information: "WAP"

MMS User Preference Profile Name: "Greeting cards"

MMS User Information Preference Information

Visibility: "hide"

Delivery report: "yes" Read-reply: "yes" Priority: "normal" Delivery-Time:

Value (absolute): "1-Jan-2003, 12:00:00 AM GMT"

Expiry:

Value (relative): 1104537600 seconds

Coding:	80	01	01	81	0E	47	72	65	65	74	69	6E
	67	20	63	61	72	64	73	82	19	14	80	06
	80	10	80	0F	81	07	07	80	05	00	3E	12

80 10 80 0F 81 07 07 80 05 00 2F 41 80 80 06 81 04 D5 E8 00

EFMMSUCP

Logically: **MMS Connectivity Parameters** MMS Implementation MMS Implementation Information: "WAP" MMS Relay/Server MMS Relay/Server Address"http://mms-operator2.com" 1st Interface to Core Network and Bearer "GSM-CSD" Bearer: "+495251699" Address: Type of address: "E164" Speed: "Autobauding" "ANALOG_MODEM" Call type: Authentication type: "PAP" Authentication id: "UDO OTS1" Authentication pw: "Udo_password1" 2nd Interface to Core Network and Bearer Bearer: "GSM-CSD" "+495251700" Address: Type of address: "E164" Speed: "Autobauding" "ANALOG_MODEM" Call type: Authentication type: "PAP" Authentication id: "UDO_OTS2" Authentication pw: "Udo_password2" 3rd Interface to Core Network and Bearer "GSM-GPRS" Bearer: Address: "wap.B2B-operator2.com" Type of address: "APN" "ANALOG_MODEM" Call type: Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10-5" SDU-Error-Ratio: "1*10⁻⁶" Traffic-class: "Interactive class" Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP" Authentication id: "UDO_OTS1" Authentication pw: "Udo_password1" 4th Interface to Core Network and Bearer Bearer: "GSM-GPRS" Address: "wap.B2C-operator2.com" Type of address: "APN" Call type: "ANALOG_MODEM" Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10⁻⁵" SDU-Error-Ratio: "1*10-6" Traffic-class: "Interactive class" Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP" Authentication id: "UDO_OTS2" Authentication pw: "Udo_password2" Gateway: Address: "170.187.51.4" Type of address: "Ipv4" "9203" Port: Service: "CO-WSP" Authentication type: "HTTP BASIC" Authentication id: "gateway_user7" Authentication pw: "gateway_password7"

Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	3A	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	32	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	35	32	35	31	36	39	39
	00 4E	09	87 45	25 54	C5	0A	90	OC	9A	0D	55 65	44
	4F 70	11 61	4F 73	54 73	53 77	31 6F	00 72	0E 64	55 24	64 00	6F 82	11 2F
	10	AA	73 08	73 2B		39	35	32	31 35	31	o∠ 37	2r 30
		00	09	2D 87	34 25	C5	0A	90	0C	9A	0D	55
	30 44	4F	11	4F	25 54	53	32	00	0E	55	64	6F
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	08	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	32	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	08	0C	9A	0D	55	44	4F	11
	4F	54	53	31	00	0E	55	64	6F	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	08	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	32	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	08	0C	9A	0D	55	44	4F	11	4F	54	53
	32	00	0E	55	64	6F	11	70	61	73	73	77
	6F	72	64	32	00	83	3B	20	31	37	30	2E
	31	38	37	2E	35	31	2E	34	00	21	85	23
	39	32	30	31	00	24	СВ	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	37	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	37	00					

The UICC is installed into the Terminal and the user has indicated the data stored in EFMMSUCPas default.

8.3.2.4.2 Procedure

- a) The Terminal is powered on and the PIN shall be entered.
- b) When the Terminal is in idle mode the user shall generate an MM using the MMS User Agent on the Terminal with the default MMS User Connectivity Parameters and the MMS user preference information stored in the card and send it to "+0123456789".

8.3.2.5 Acceptance criteria

- 1) After step b) the Terminal shall have read the first supported set of MMS connectivity parameters stored in EFmmsucp.
- 2) After step b) the Terminal shall have sent the MM to "+0123456789" using the MMS User Connectivity Parameter set with the highest priority (as defined by its position in EF_{MMSUCP}), which can be used to access an available MMS Relay/Server.
- 3) After step b) the Terminal shall have sent the MM to "+0123456789" using the MMS user preference information stored in EF_{MMSUCP}.

8.3.3 UE recognising the priority order of MMS Issuer Connectivity Parameters over the MMS User Connectivity Parameters

8.3.3.1 Definition and applicability

An MMS User Agent shall use the MMS related information stored in the USIM, if present, unless otherwise specified by the user. This information comprises MMS connectivity information, MMS user preferences and MMS notifications.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs (e.g. default values for parameters that are often used).

8.3.3.2 Conformance requirement

MMS connectivity information, on the USIM includes a number of sets of MMS connectivity parameters. Some of these sets of MMS connectivity parameters are preset by the issuer of the USIM with the first set being the default. Such default preset MMS connectivity parameter set shall be selected unless otherwise specified by the user.

- TS 31.102 [4], clauses 4.2.69, 4.7.71, 5.3.30 and 5.3.32;
- TS 23.140 [23], clause 7.1.14 and Annex F

8.3.3.3 Test purpose

- 1) To verify that the Terminal's MMS User Agent uses the MMS connectivity parameter stored on the USIM to connect to the network for MMS purposes.
- 2) To verify that a MMS Issuer Connectivity Parameter set with lower priority (as defined by its position in EF_{MMSICP}) takes precedence over a MMS User Connectivity Parameter set with a higher priority.

8.3.3.4 Method of test

8.3.3.4.1 Initial conditions

Four MMS Relays/Servers are available:

MMS Relay/Server 1:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+495251699" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.5" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user9"
Authentication pw: "gateway_password9"

MMS Relay/Server 2:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2P-operator3.com"

Type of address: "APN"

Call type: "ANALOG_MODEM" Delivery of erroneous SDU:"No" Residual Bit Error Rate: "1*10⁻⁵" SDU-Error-Ratio: "1*10⁻⁶" Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.5" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user9"
Authentication pw: "gateway_password9"

MMS Relay/Server 3:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD"
Address: "+496998626"
Type of address: "E164"
Speed: "Autobauding"
Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.5" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user9"
Authentication pw: "gateway_password9"

MMS Relay/Server 4:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator3.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.5" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user9"
Authentication pw: "gateway_password9"

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service no. 33 (Packed Switched Domain) shall be set to '1' Service no. 52 Multimedia Messaging Service available Service no. 55 MMS User Connectivity Parameters available

Coding: R1 R2 В3 R4 **B**5 **B6** B7 Binary xx1x xx11 x11x xxxx xxxx 1x00 xxxx x1xx xxxx xxx1 xxxx xxxx x1xx 1xxx

EFMMSN

Logically:

MMS Status: Free space MMS Implementation: "00"

MMS Notification: "FF FF ... FF" (251 bytes)

Extension file record number: "FF"

Coding: B1 B2 B3 B4 B5 ... B254 B255 00 00 00 FF FF FF FF

EFMMSICP

Logically:

MMS Connectivity Parameters

MMS Implementation

MMS Implementation Information: "WAP"

MMS Relay/Server

MMS Relay/Server Address"http://mms-operator3.com"

1st Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+496998625" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"
2nd Interface to Core Network and Bearer

Bearer: "GSM-CSD" Address: "+496998626" Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

3rd Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator3.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"
4th Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator3.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU:"No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway:

Address: "170.187.51.5" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user9"
Authentication pw: "gateway_password9"

Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	ЗА	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	33	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	36	39	39	38	36	32	35
	00	09	87	25	C5	0A	90	0C	9A	0D	42	32
	42	11	4F	54	53	31	00	0E	42	32	42	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	36	39	39	38	36	32
	36	00	09	87	25	C5	0A	90	0C	9A	0D	42
	32	43	11	4F	54	53	32	00	0E	42	32	43
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	33	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	42	32	42	11
	4F	54	53	31	00	0E	42	32	42	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	33	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	42	32	43	11	4F	54	53
	32	00	0E	42	32	43	11	70	61	73	73	77
	6F	72	64	32	00	83	3B	20	31	37	30	2E
	31	38	37	2E	35	31	2E	35	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	39	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	39	00					

EFMMSUP

Logically:

MMS Implementation

MMS implementation information: "WAP"

MMS User Preference Profile Name: "Greeting cards"

MMS User Information Preference Information

Visibility: "hide"
Delivery report: "yes"
Read-reply: "yes"
Priority: "normal"
Delivery-Time:

Value (absolute): "1-Jan-2003, 12:00:00 AM GMT"

Expiry:

Value (relative): 1104537600 seconds

Coding:	80	01	01	81	0E	47	72	65	65	74	69	6E
	67	20	63	61	72	64	73	82	19	14	80	06
	80	10	80	0F	81	07	07	80	05	00	3E	12
	2F	80	80	06	81	04	41	D5	E8	00		

EFMMSUCP

Logically: **MMS Connectivity Parameters** MMS Implementation MMS Implementation Information: "WAP" MMS Relay/Server MMS Relay/Server Address"http://mms-operator3.com" 1st Interface to Core Network and Bearer "GSM-CSD" Bearer: "+495251699" Address: Type of address: "E164" Speed: "Autobauding" "ANALOG_MODEM" Call type: Authentication type: "PAP" Authentication id: "UDO OTS1" Authentication pw: "Udo_password1" 2nd Interface to Core Network and Bearer "GSM-CSD" Bearer: "+495251700" Address: Type of address: "E164" Speed: "Autobauding" "ANALOG_MODEM" Call type: Authentication type: "PAP" Authentication id: "UDO_OTS2" Authentication pw: "Udo_password2" 3rd Interface to Core Network and Bearer "GSM-GPRS" Bearer: Address: "wap.B2P-operator3.com" Type of address: "APN" "ANALOG_MODEM" Call type: Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10-5" SDU-Error-Ratio: "1*10⁻⁶" Traffic-class: "Interactive class" Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP" Authentication id: "UDO_OTS1" Authentication pw: "Udo_password1" 4th Interface to Core Network and Bearer Bearer: "GSM-GPRS" Address: "wap.B2C-operator3.com" Type of address: "APN" Call type: "ANALOG_MODEM" Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10⁻⁵" SDU-Error-Ratio: "1*10-6" Traffic-class: "Interactive class" Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP" Authentication id: "UDO_OTS2" Authentication pw: "Udo_password2" Gateway: Address: "170.187.51.5" Type of address: "Ipv4" "9201" Port: Service: "CO-WSP" Authentication type: "HTTP BASIC" Authentication id: "gateway_user9" Authentication pw: "gateway_password9"

O !!				4-			- 4	- 4	4.0		- 4	- 4
Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	3A	2F	2F	6D	6D	73	2D	6F	70	65	72
	61	74	6F	72	33	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	35	32	35	31	36	39	39
	00	09	87	25	C5	0A	90	0C	9A	0D	55	44
	4F	11	4F	54	53	31	00	0E	55	64	6F	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	35	32	35	31	37	30
	30	00	09	87	25	C5	0A	90	0C	9A	0D	55
	44	4F	11	4F	54	53	32	00	0E	55	64	6F
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	50
	2D	6F	70	65	72	61	74	6F	72	33	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	55	44	4F	11
	4F	54	53	31	00	0E	55	64	6F	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	33	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	55	44	4F	11	4F	54	53
	32	00	0E	55	64	6F	11	70	61	73	73	77
	6F	72	64	32	00	83	3C	20	31	37	30	2E
	31	38	37	2E	35	31	2E	35	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	39	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	39	00					

The UICC is installed into the Terminal and the user hasn't specified a default MMS connectivity parameter set.

8.3.3.4.2 Procedure

- a) The Terminal is powered on and the PIN shall be entered.
- b) When the Terminal is in idle mode the user shall generate an MM using the MMS User Agent on the Terminal with the default MMS connectivity parameter set and send it to "+0123456789". If no MMS Relay/Server is available for this parameter set, the next MMS connectivity parameter set offered by the MMS User Agent shall be used to send the MM.

8.3.3.5 Acceptance criteria

After step b) the Terminal shall have sent the MM to "+0123456789" using the first supported MMS connectivity parameter set, which can be used to access an available MMS Relay/Server and is stored in EF_{MMSICP}.

8.3.4 Usage of MMS notification

8.3.4.1 Definition and applicability

An MMS User Agent shall use the MMS related information stored in the USIM, if present, unless otherwise specified by the user. This information comprises MMS connectivity information, MMS user preferences and MMS notifications. MMS notifications should be stored on the USIM together with an associated status by a MMS User Agent according to TS 23.140 [23].

8.3.4.2 Conformance requirement

A Terminal supporting MMS notification storage on the USIM shall store MMS notifications together with an associated status on the USIM.

- TS 31.102 [4], clauses 4.2.67 and 5.3.29;
- TS 23.140 [23], clauses 7.1.12, 7.1.14, 8.1.4 and Annex F.

8.3.4.3 Test purpose

To verify that the Terminal stores and updates MMS notifications with the associated status on the USIM correctly.

8.3.4.4 Method of test

8.3.4.4.1 Initial conditions

Two MMS Relays/Servers are available:

MMS Relay/Server 1:

MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD"
Address: "+496998625"
Type of address: "E164"
Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

MMS Relay/Server 2:

7) MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"

Gateway

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available Barred dialling numbers available The GSM Access available

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service no. 33 (Packed Switched Domain) shall be set to '1' Service no. 52 Multimedia Messaging Service available

Service no. 53 Extension 8 available

Service no. 55 MMS User Connectivity Parameters not available

B4 Coding: R1 R2 R3 **R5** R6 R7 Binary x0x1 1xxx xx1x xx11 x11x xxxx xxxx 1x00 xxxx x1xx xxxx xxx1 XXXX XXXX

EFMMSN

Logically:

MMS Status: Free space MMS Implementation: "00"

MMS Notification: "FF FF ... FF" (251 bytes)

Extension file record number: "FF"

Coding: B1 B2 B3 B4 B5 ... B254 B255 00 00 00 FF FF FF FF

EF_{MMSUP}

Logically:

```
MMS Implementation
```

MMS implementation information: "WAP"

MMS User Preference Profile Name: "Greeting cards"

MMS User Information Preference Information

Visibility: "hide"

Delivery report: "yes" Read-reply: "yes" Priority: "normal" Delivery-Time:

Value (absolute): "1-Jan-2003, 12:00:00 AM GMT"

Value (relative): 1104537600 seconds

80 01 Coding: 01 81 72

65 65 74 69 6E 19 67 20 63 61 72 64 73 82 14 80 06 80 10 80 0F 81 07 07 80 05 00 3E 12 2F 80 80 06 81 04 41 D5 E8 00

EFMMSICP

Logically:

MMS Connectivity Parameters

MMS Implementation

MMS Implementation Information: "WAP"

MMS Relay/Server

MMS Relay/Server Address"http://mms-operator1.com"

1st Interface to Core Network and Bearer

Bearer: "GSM-CSD" "+496998625" Address: Type of address: "E164" Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP" Authentication id: "B2B OTS1" Authentication pw: "B2B_password1" 2nd Interface to Core Network and Bearer

Bearer: "GSM-CSD" "+496998626" Address: Type of address: "E164" "Autobauding" Speed:

"ANALOG_MODEM" Call type:

Authentication type: "PAP" Authentication id: "B2C_OTS2" Authentication pw: "B2C_password2" 3^{rd} Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

"wap.B2B-operator1.com" Address:

Type of address: "APN"

"ANALOG_MODEM" Call type: Delivery of erroneous SDU: "No" Residual Bit Error Rate: "1*10-5"

SDU-Error-Ratio: "1*10⁻⁶" Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2B_OTS1"
Authentication pw: "B2B_password1"
4th Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2C-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"
Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"
Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway:

Address: "170.187.51.3" Type of address: "Ipv4" Port: "9201" Service: "CO-WSP"

Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

			-	-	• •							
Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	3A	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	31	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	36	39	39	38	36	32	35
	00	09	87	25	C5	0A	90	0C	9A	0D	42	32
	42	11	4F	54	53	31	00	0E	42	32	42	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	36	39	39	38	36	32
	36	00	09	87	25	C5	0A	90	0C	9A	0D	42
	32	43	11	4F	54	53	32	00	0E	42	32	43
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	31	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	42	32	42	11
	4F	54	53	31	00	0E	42	32	42	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	31	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	42	32	43	11	4F	54	53
	32	00	0E	42	32	43	11	70	61	73	73	77
	6F	72	64	32	00	83	3C	20	31	37	30	2E
	31	38	37	2E	35	31	2E	33	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	31	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	31	00					

EF_{EXT8}

Logically:

At least 10 records.

Record 1 to 10: Free space with 253 bytes for extension data

Record 1:

Coding: B1 B2 B3 B4 ... B255 Hex 00 FF FF FF FF

The UICC is installed into the Terminal and the user hasn't specified a default MMS connectivity parameter set.

8.3.4.4.2 Procedure

a) The terminal is powered on and the PIN shall be entered.

b) When the terminal is in idle mode a MM shall be sent to the terminal via the MMS Relay/Server 1 or 2, dependent on the bearer supported by the terminal. This MMS Relay/Server shall then generate a notification to the Terminal's MMS User Agent. With the MM notification the MMS User Agent shall receive a message reference that can be used for retrieving the MM from this MMS Relay/Server.

The MM shall result in a MMS notification with the following predefined values:

X-Mms Message Type: "m-notification-ind" (0x82)

X-Mms-Transaction-ID: "01" X-Mms-MMS-Version: "1.0"

From: not present (hidden)

Subject: "MM for you"

X-Mms-Content-Location: "http://mms-operator1/MMBox/ID-007-12345678"

c) The user shall read the MMS notification stored on the USIM.

d) The user shall retrieve the MM stored on the MMS Relay/Server used in step b).

e) The user shall forward the MM to "+0123456789" using the default MMS Issuer Connectivity Parameters stored on the USIM.

f) A MM shall be sent to the terminal via the same MMS Relay/Server as in step b). This MMS Relay/Server shall then generate a notification to the Terminal's MMS User Agent. With the MM notification the MMS User Agent shall receive a message reference that can be used for retrieving the MM from this MMS Relay/Server.

The MM shall result in a MMS notification with the following predefined values:

X-Mms Message Type: "m-notification-ind" (0x82)

X-Mms-Transaction-ID: "02"

X-Mms-MMS-Version: "1.0"

From: "+0987123654"

Subject: "Urgent MM"

X-Mms-Content-Location: "http://mms-operator1/MMBox/ID-007-02468024"

g) The user shall read the MMS notification stored on the USIM.

h) The user shall reject the MM stored on the MMS Relay/Server used in step b).

8.3.4.5 Acceptance criteria

1) After step b) the MMS User Agent on the terminal shall have stored the MMS notification on the USIM with the values defined in step b) of 8.4.4.4.2, the associated status shall have been set to "Used space, notification not read, MM not retrieved" and the MMS User Agent shall indicate to the user that a MMS notification has been received.

- 2) After step c) the status of the MMS notification stored on the USIM shall have been set to "used space, notification read, MM not retrieved".
- 3) After step d) the MMS user agent shall have retrieved the MM from the MMS Relay/Server 1 and the status of the MMS notification stored on the USIM shall have either been set to "used space, notification read, MM retrieved" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".
- 4) After step e) the terminal shall have read the set of MMS Issuer Connectivity Parameters stored first in EF_{MMSICP} and shall have forward the MM to "+0123456789" using the MMS Relay/Server 1. The MMS notification shall have either been set to "used space, notification read, MM forwarded" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".
- 5) After step f) the MMS User Agent on the terminal shall have stored the MMS notification on the USIM with the values defined in step f) of 8.4.4.4.2, the associated status shall have been set to "Used space, notification not read, MM not retrieved" and the MMS User Agent shall indicate to the user that a MMS notification has been received.
- 6) After step g) the status of the MMS notification stored on the USIM shall have been set to "used space, notification read, MM not retrieved".
- 7) After step h) the MMS user agent shall have not retrieved the MM from the MMS Relay/Server 1 and the status of the MMS notification stored on the USIM shall have either been set to "used space, notification read, MM rejected" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".

8.4 UICC presence detection

8.4.1 Definition and applicability

To ensure that the UICC has not been removed during a card session, the Terminal sends in case of inactivity on the UICC-Terminal interface, at frequent intervals, a STATUS command during each call.

This procedure shall be used in addition to a mechanical or other devices used to detect the removal of a UICC.

8.4.2 Conformance requirement

A STATUS command shall be issued within all 30 second periods of inactivity on the UICC-Terminal interface during a call. Inactivity in this case is defined as starting at the end of the last communication or the last issued STATUS command. If no response data is received to this STATUS command, then the call shall be terminated as soon as possible but at least within 5s after the STATUS command has been sent. If the DF indicated in response to a STATUS command is not the same as that which was indicated in the previous response, or accessed by the previous command, then the call shall be terminated as soon as possible but at least within 5 seconds after the response data has been received. Here a call covers a circuit switched call, and/or an active PDP context.

The ME may suspend the UICC presence detection based on STATUS commands in case it has an active PDP context, but has not exchanged any data with the network within a 30s period of inactivity on the UICC-ME interface, and resume it as soon as data is exchanged with the network, sending immediately a new STATUS command.

- TS 31.102 [4], clauses 5.1.9
- ETSI TS 102 221 [5], clause 14.5.2.

8.4.3 Test purpose

- 1) To verify that there are no periods of inactivity on the UICC-Terminal interface greater than 30 seconds during a call.
- 2) To verify that the terminal terminates a call within 5 s at the latest after having received an invalid response to the STATUS command.

8.4.4 Method of test

8.4.4.1 Initial conditions

The terminal shall be connected to the UICC simulator. All elementary files shall be coded as default.

8.4.4.2 Procedure

a) A call shall be set up using the generic call setup for circuit switched call or to activate a PDP context.

NOTE: In case of PDP context for a terminal that supports Rel-12 or later, exchange of data with the network may be required to guarantee the correct result of the test.

- b) The UICC simulator shall monitor the time of periods of inactivity on the UICC-Terminal interface.
- c) After 3 minutes, the call or PDP context shall be cleared.
- d) A call shall be set up using the generic call setup for circuit switched call or to activate a PDP context.

NOTE: In case of PDP context for a terminal that supports Rel-12 or later, exchange of data with the network may be required to guarantee the correct result of the test.

e) After one minute after the call was successfully set up, the UICC simulator shall respond to a STATUS command with the response data indicating a DF different from the current DF.

8.4.5 Acceptance criteria

- 1) During step b), the time of periods of inactivity on the UICC-Terminal interface shall not be longer than 30 seconds.
- 2) After step e), the Terminal shall terminate the call or PDP context within 5 s at the latest after having received the wrong response to the STATUS command.

8.5 UICC presence detection when connected to E-UTRAN/EPC

8.5.1 Definition and applicability

To ensure that the UICC has not been removed during a card session, the Terminal sends in case of inactivity on the UICC-Terminal interface, at frequent intervals, a STATUS command during each call or active PDP context.

8.5.2 Conformance requirement

A STATUS command shall be issued within all 30 second periods of inactivity on the UICC-Terminal interface during an active PDP context. Inactivity in this case is defined as starting at the end of the last communication or the last issued STATUS command. If no response data is received to this STATUS command, then the active PDP context shall be terminated as soon as possible but at least within 5s after the STATUS command has been sent. If the DF indicated in response to a STATUS command is not the same as that which was indicated in the previous response, or accessed by the previous command, then the active PDP context shall be terminated as soon as possible but at least within 5 seconds after the response data has been received.

The ME may suspend the UICC presence detection based on STATUS commands in case it has an active EPS bearer context, but has not exchanged any data with the network within a 30s period of inactivity on the UICC-ME interface, and resume it as soon as data is exchanged with the network, sending immediately a new STATUS command.

There is 1:1 mapping between one PDP context and one EPS Bearer.

- TS 31.102 [4], clauses 5.1.9
- ETSI TS 102 221 [5], clause 14.5.2.

- TS 23.060 [25], clause 9.2.1A.

8.5.3 Test purpose

- 1) To verify that there are no periods of inactivity on the UICC-Terminal interface greater than 30 seconds during an active PDP context.
- 2) To verify that the terminal terminates the default EPS Bearer within 5 s at the latest after having received an invalid response to the STATUS command.

8.5.4 Method of test

8.5.4.1 Initial conditions

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

The default E-UTRAN UICC is used.

8.5.4.2 Procedure

a) The terminal is switched on, performs the Attach procedure to the E-USS/NB-SS and establishes the default EPS bearer.

NOTE: For a terminal that supports Rel-12 or later, exchange of data with the network may be required to guarantee the correct result of the test.

- b) The UICC simulator shall monitor the time of periods of inactivity on the UICC-Terminal interface.
- c) Step b) shall be performed for 3 minutes.
- d) After one minute after the end of step c), the UICC simulator shall respond to a STATUS command with the response data indicating a DF different from the current DF.

8.5.5 Acceptance criteria

- 1) During step c), the time of periods of inactivity on the UICC-Terminal interface shall not be longer than 30 seconds.
- 2) After step d), the Terminal shall terminate the default EPS bearer within 5 s at the latest after having received the wrong response to the STATUS command.

9 USIM service handling

9.1 Access Point Name Control List handling

9.1.1 Access Point Name Control List handling for terminals supporting ACL

9.1.1.1 Definition and applicability

This EF_{ACL} contains the list of allowed APNs (Access Point Names). When the APN Control List service is enabled, the ME shall check that the entire APN of any PDP context is listed in EF_{ACL} before requesting this PDP context activation from the network. If the APN is not present in EF_{ACL} , the ME shall not request the corresponding PDP context activation from the network.

9.1.1.2 Conformance requirement

The terminal shall support the APN Control List service as defined in TS 31.102 [4], clauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], clauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], clause 9.2.

9.1.1.3 Test purpose

- To verify that the terminal takes into account the status of the APN Control List service as indicated in EF_{UST} and EF_{EST}.
- 2) To verify that the terminal checks that the entire APN of any PDP context is listed in EF_{ACL} before requesting this PDP context activation from the network if the ACL service is enabled.
- 3) To verify that the terminal does not request the corresponding PDP context activation from the network if the ACL service is enabled and the APN is not present in EF_{ACL}.

9.1.1.4 Method of test

9.1.1.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the (U)SS.

The default USIM is used with the following exceptions:

The APN Control List (ACL) shall be allocated and activated in the USIM Service Table and enabled in the Enabled Service Table.

EF_{ACL} shall be present with the following values:

EF_{ACL} (Access Point Control List)

Logicall	•	Number o Number o 1 st APN: 2 nd APN: 3 rd APN:		3 est test	Į.							
Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Coding:	03	DD	0A	04	74	65	73	74	04	74	65	73
	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24
	74	DD	0A	04	33	67	70	70	04	74	65	73
	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36
	74	DD	0A	04	32	67	70	70	04	74	65	73
B37 74		B38 FF		B64 FF								

9.1.1.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall request a PDP context activation to "1gpp.test".
- c) The user shall request a PDP context activation to "3gpp.test".
- d) The user shall deactivate the PDP context.

- e) The user shall disable the APN Control List service. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- f) The user shall request a PDP context activation to "1gpp.test".
- g) The user shall deactivate the PDP context and shall switch the terminal off and then switch on again.
- h) The user shall enable the APN Control List service. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- i) The user shall request a PDP context activation to "1ppp.net".
- j) The terminal is switched off and on.
- k) The user shall add the APN "1ppp.net" to the APN Control List. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- 1) The user shall request a PDP context activation to "1ppp.net".
- m) The user shall deactivate the PDP context and switch off the terminal.

9.1.1.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the ACL service in EF_{UST} and EF_{EST} and be in updated idle mode on the (U)SS.
- 2) The terminal shall have not requested a PDP context activation in step b).
- 3) After step c) the PDP context shall have been activated.
- 4) After step d) the PDP context shall have been deactivated.
- 5) After step e) the APN Control List service shall have been set to disabled in EF_{EST}.
- 6) After step f) the PDP context shall have been activated.
- 7) After step g) the PDP context shall have been deactivated.
- 8) After step h) the APN Control List service shall have been set to enabled in EF_{EST}.
- 9) The terminal shall not have requested a PDP context activation in step i).
- 10) After step k) the APN "1ppp.net" shall have been added to the APN Control List in EF_{ACL}.
- 11) After step l) the PDP context shall have been activated.

9.1.2 Network provided APN handling for terminals supporting ACL

9.1.2.1 Definition and applicability

This EF_{ACL} contains the list of allowed APNs (Access Point Names). When the APN Control List service is enabled, the ME shall check that the entire APN of any PDP context is listed in EF_{ACL} before requesting this PDP context activation from the network. If the APN is not present in EF_{ACL} , the ME shall not request the corresponding PDP context activation from the network.

In the case that the APN Control List is enabled and no APN is indicated in the PDP context request, indicating that a network provided APN is to be used, then the ME shall only request the PDP context activation if "network provided APN" is contained within EF_{ACL} .

9.1.2.2 Conformance requirement

The terminal shall support the APN Control List service as defined in TS 31.102 [4], clauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], clauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], clause 9.2.

9.1.2.3 Test purpose

- 1) To verify that if ACL is enabled and if no APN is indicated in the PDP context the terminal request the PDP context activation only if "network provided APN" is contained within EF_{ACL}.
- 2) To verify that the user is able to set an APN in EF_{ACL} entry to the value "network provided APN".
- 3) To verify that the minimum set of APN entries in EF_{ACL} is ensured when the user deletes APN entries.

9.1.2.4 Method of test

9.1.2.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the (U)SS.

The default USIM is used with the following exceptions:

The APN Control List (ACL) shall be allocated and activated in the USIM Service Table and enabled in the Enabled Service Table.

EF_{ACL} shall be present with the following values:

EF_{ACL} (Access Point Control List)

Logicall	•	Number o Number o 1 st APN: 2 nd APN: 3 rd APN:		3 est test	1							
Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Coding:	03	DD	0A	04	74	65	73	74	04	74	65	73
	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24
	74	DD	0A	04	33	67	70	70	04	74	65	73
	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36
	74	DD	0A	04	32	67	70	70	04	74	65	73
B37 74		B38 FF		B64 FF								

9.1.2.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall add "network provided APN" to the APN Control List in EF_{ACL} by using an MMI dependent option in the terminal. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- c) The user shall request a PDP context activation to "3gpp.test".
- d) The user shall deactivate the PDP context.
- e) The user shall request a PDP context activation without indicating an APN.

- f) The user shall deactivate the PDP context.
- g) The user shall delete "network provided APN" from the APN Control List in EF_{ACL} by using an MMI dependent option in the terminal. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- h) The user shall request a PDP context activation to "3gpp.test".
- i) The user shall deactivate the PDP context.
- j) The user shall request a PDP context activation without indicating an APN.
- k) The user shall try to delete all APNs from the APN Control List in EF_{ACL} by using an MMI dependent option in the terminal. When the terminal indicates that at least one APN entry shall remain, the user shall set this entry to "network provided APN". When prompted to enter PIN2, the user shall present the correct PIN2 value.
- 1) The user shall switch off the terminal.

9.1.2.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the ACL service in EF_{UST} and EF_{EST} and be in updated idle mode on the (U)SS.
- 2) After step b) EF_{ACL} shall contain an entry for "network provided APN".
- 3) After step c) the PDP context shall have been activated.
- 4) After step d) the PDP context shall have been deactivated.
- 5) After step e) the PDP context shall have been activated.
- 6) After step f) the PDP context shall have been deactivated.
- 7) After step g) EF_{ACL} shall not contain an entry for "network provided APN".
- 8) After step h) the PDP context shall have been activated.
- 9) After step i) the PDP context shall have been deactivated.
- 10) The terminal shall have not requested a PDP context activation in step j).
- 11) After step k) EF_{ACL} shall contain one APN entry with the value "network provided APN" and the corresponding number of APNs in EF_{ACL} shall be 1.

9.1.3 Access Point Name Control List handling for terminals not supporting ACL

9.1.3.1 Definition and applicability

This EF_{ACL} contains the list of allowed APNs (Access Point Names). When the APN Control List service is enabled, the ME shall check that the entire APN of any PDP context is listed in EF_{ACL} before requesting this PDP context activation from the network. If the APN is not present in EF_{ACL} , the ME shall not request the corresponding PDP context activation from the network.

If ACL is enabled, an ME which does not support ACL shall not send any APN to the network.

9.1.3.2 Conformance requirement

An ME which does not support ACL shall not send any APN to the network if ACL is enabled.

Reference:

- TS 31.102 [4], 5.1.1.2.

9.1.3.3 Test purpose

To verify that if ACL is enabled, an ME which does not support ACL, does not send any APN to the network to request a PDP context activation.9.1.3.4 Method of test

9.1.3.4 Method of test

9.1.3.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the (U)SS.

The default USIM is used with the following exceptions:

The APN Control List (ACL) shall be allocated and activated in the USIM Service Table and enabled in the Enabled Service Table.

EF_{ACL} shall be present with the following values:

EF_{ACL} (Access Point Control List)

NCL (~,									
Logical	lly:	Number of Number of 1 st APN: 2 nd APN: 3 rd APN:	of APNs: test.: 3gpp	3	54							
Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Coding:	03	DD	0A	04	74	65	73	74	04	74	65	73
	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24
	74	DD	0A	04	33	67	70	70	04	74	65	73
	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36
	74	DD	0A	04	32	67	70	70	04	74	65	73
	B37 74	B38 FF		B64 FF								

9.1.3.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall request a PDP context activation to "3gpp.test".
- c) The terminal shall be switched off.

9.1.3.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the ACL service in EF_{UST} and EF_{EST} and be in updated idle mode on the (U)SS.
- 2) The terminal shall not have sent any APN to the network in step b).

9.1.4 Access Point Name Control List handling for terminals supporting ACL connected to E-UTRAN/EPC

9.1.4.1 Definition and applicability

This EF_{ACL} contains the list of allowed APNs (Access Point Names). If the APN Control List service is enabled and the ME is to provide an APN as part of attach for PDN connectivity, then the ME shall verify that the APN value is present in the EF_{ACL} and if it is not the ME shall not proceed with the attach procedure. If the APN Control List service is

enabled and the ME does not indend to provide an APN as part of the attach for PDN connectivity and use a network provided APN, the ME shall not check if "network provided APN" is contained within EF_{ACL}.

There is 1:1 mapping between one PDP context and one EPS Bearer.

Some terminals might not support the enablement or the disablement of the APN Control List service or the modification of the APN Control List. In these cases, the test sequence below provides separate branches.

9.1.4.2 Conformance requirement

The terminal shall support the APN Control List service as defined in TS 31.102 [4], clauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], clauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], clause 9.2, 9.2.1A.

9.1.4.3 Test purpose

- 1) To verify that the terminal takes into account the status of the APN Control List service as indicated in EF_{UST} and EF_{EST} .
- 2) To verify that the terminal checks that the entire APN of any EPS Bearer is listed in EF_{ACL} before requesting this EPS Bearer activation from the network if the ACL service is enabled.
- 3) To verify that the terminal does not request the corresponding EPS Bearer activation from the network if the ACL service is enabled and the APN is not present in EF_{ACL}.
- 4) To verify that the terminal does not check that the network provided APN is present in EF_{ACL} during the initial attach procedure.

9.1.4.4 Method of test

9.1.4.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the E-USS.

The terminal is configured to use the network provided APN for the initial attach procedure.

The default E-UTRAN UICC is used with the following exceptions:

The APN Control List (ACL) shall be allocated and activated in the USIM Service Table and enabled in the Enabled Service Table.

EF_{ACL} shall be present with the following values:

EFACL (Access Point Control List)

Logically: Number of available bytes: 64

 $\begin{array}{lll} \text{Number of APNs:} & 3 \\ 1^{\text{st}} & \text{APN:} & \text{test.test} \\ 2^{\text{nd}} & \text{APN:} & 3 \text{gpp.test} \\ 3^{\text{rd}} & \text{APN:} & 2 \text{gpp.test} \end{array}$

Byte:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Coding:	03	DD	0A	04	74	65	73	74	04	74	65	73
	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24
	74	DD	0A	04	33	67	70	70	04	74	65	73
	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36
	74	DD	0A	04	32	67	70	70	04	74	65	73
	B37 74	B38 FF		B64 FF								

9.1.4.4.2 Procedure

- a) The terminal is switched on, the USIM application shall be activated and the terminal shall successfully attach the E-UTRAN.
- b) The user shall request PDN connectivity to "1gpp.test".
- c) The user shall request PDN connectivity to "3gpp.test".
- d) The user shall deactivate the PDN connectivity to "3gpp.test".
- e) If user interface does not have support to disable the APN Control List service, proceed to step 1).
- f) The user shall disable the APN Control List service. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- g) The user shall request PDN connectivity to "1gpp.test".
- h) The user shall deactivate the PDN connectivity to "1gpp.test" and shall switch the terminal off and then switch on again.
- i) The user shall enable the APN Control List service. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- j) The user shall request PDN connectivity to "1ppp.net".
- k) The terminal is switched off and on.
- 1) If user interface does not have support to add APN to APN Control List, proceed to step p).
- m) The user shall add the APN "1ppp.net" to the APN Control List. When prompted to enter PIN2, the user shall present the correct PIN2 value.
- n) The user shall request PDN connectivity to "1ppp.net".
- o) The user shall deactivate the PDN connectivity.
- p) Switch off the terminal.

9.1.4.5 Acceptance criteria

- 1) After step a) the terminal shall have activated the USIM application, shall have read the status of the ACL service in EF_{UST} and EF_{EST} and be in updated idle mode on the E-USS.
- 2) The terminal shall have not requested PDN connectivity in step b).
- 3) After step c) PDN connectivity shall have been activated.
- 4) After step d) PDN connectivity shall have been deactivated.
- 5) After step f) the APN Control List service shall have been set to disabled in EF_{EST}.
- 6) After step g) PDN connectivity shall have been activated.

- 7) After step h) PDN connectivity shall have been deactivated.
- 8) After step i) the APN Control List service shall have been set to enabled in EF_{EST}.
- 9) The terminal shall not have requested PDN connectivity in step j).
- 10) After step m) the APN "1ppp.net" shall have been added to the APN Control List in EF_{ACL}.
- 11) After step n) PDN connectivity shall have been activated.
- 12) After step o) PDN connectivity shall have been deactivated.

9.1.5 Void

9.1.6 Void

9.2 Service Dialling Numbers handling

9.2.1 Definition and applicability

The Service Dialling Numbers feature allows for the storage of numbers related to services offered by the network operator/service provider in the SIM/USIM (e.g. customer care). The user can use these telephone numbers to make outgoing calls, but the access for updating of the numbers shall be under the control of the operator.

9.2.2 Conformance requirement

The terminal shall support the Service Dialling Numbers service as defined in TS 31.102 [4], clauses 4.2.8 and 4.2.29.

Reference:

- TS 31.102 [4], clauses 4.2.8, 4.2.29 and 4.2.31;
- TS 22.101 [11], clause A.23.

9.2.3 Test purpose

- 1) To verify that the terminal takes into account the status of the Service Dialling Numbers service as indicated in EF_{UST} .
- 2) To verify that the user can use the Service Dialling Numbers to make outgoing calls.
- 3) To verify that the terminal is able to handle SDNs with an extended dialling number string.
- 4) To verify that the terminal is able to handle an empty alpha identifier in EF_{SDN}.
- 5) To verify that the terminal is able to handle an alpha identifier of maximum length in EF_{SDN} .

9.2.4 Method of test

9.2.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the (U)SS.

The default USIM is used with the following exceptions:

The Service Dialling Numbers (SDN) shall be allocated and activated in the USIM Service Table.

EF_{SDN} shall be present with the following values:

EF_{SDN} (Service Dialling Numbers)

Logically:

6 records, 1 record shall be empty. Unless otherwise stated, the SDN records shall not use extendend BCD numbers/SSC strings. Access to update EF_{SDN} shall be granted by usage of ADM1 only.

Record 1: Length of alpha identifier: 241 characters;

Alpha identifier:

"Hotline001122334455667788ABCDEFGHIJKLMNOPQRSTUVW XYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789ABCDEF GHIJKLMNOPQRSTUVWXYZ0123456789abcdefghijklmnopqrstuv wxyz0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456

789abcdefghijklmnopqrstuvwxyz0123456789";

Length of BCD number: 5

TON and NPI: Telephony and International;

Dialled number: "22223333";

CCP: 'FF'; Ext3: 'FF'.

Record 1:

Codina: В1 B2 В3 B4 **B**5 В6 В7 B8 B9 B10 B11 . . . Hex 48 6F 74 6C 69 6E 65 30 30 31 B245 B250 B241 B242 B243 B244 B246 B247 B248 B249 B251 B252 39 05 91 22 22 33 33 FF FF FF FF FF

> B253 B254 B255 FF FF FF

Record 2: Length of alpha identifier: 241 characters;

Alpha identifier: "Hotline002";

Length of BCD number: 5;

TON and NPI: Telephony and International;

Dialled number: "44554455";

CCI2: 'FF'; Ext3: 'FF'.

Record 2:

B2 ВЗ **B**5 B9 Coding: **B**1 **B4 B6 B7 B8** B10 **B11** . . . Hex 48 6F 74 6C 69 6E 65 30 30 32 FF B241 B242 B243 B244 B245 B246 B247 B248 B249 B250 B251 B252 FF 05 44 FF FF FF FF 91 44 55 55 FF

B253 B254 B255 FF FF FF

Record 3: Length of alpha identifier: 241 characters;

Alpha identifier: "Hotline003";

Length of BCD number: 11;

TON and NPI: Telephony and International; Dialled number: "01234567890123456789";

CCI2: 'FF'; Ext3: "01".

Record 3:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	
Hex	48	6F	74	6C	69	6E	65	30	30	33	FF	
	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252
	FF	0B	91	10	32	54	76	98	10	32	54	76
	B253 98	B254 FF	B255 01									

Record 4: Length of alpha identifier: 241 characters;

Alpha identifier: empty; Length of BCD number: 03;

TON and NPI: Telephony and International;

Dialled number: "007"; CCI2: 'FF'; Ext3: 'FF'.

Record 4:

FF

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	
Hex	FF											
	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252
	FF	03	91	00	F7	FF						
	B253	B25/	R255									

Record 5: Length of alpha identifier: 241 characters;

Alpha identifier: empty; Length of BCD number: 3;

TON and NPI: Telephony and International;

Dialled number: "008"; CCI2: 'FF'; Ext3: 'FF'.

Record 5:

Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	
	B241 FF	B242 03	B243 91	B244 00	B245 F8	B246 FF	B247 FF	B248 FF	B249 FF	B250 FF	B251 FF	B252 FF
	B253 FF	B254 FF	B255 FF									

EF_{EXT3} (Extension 3)

Logically: 5 records, 4 records empty. Access to update EF_{EXT3} shall be granted by usage of ADM1 only.

Record 1: Record type: '02'

Extension data: "012345"; Identifier: "FF'.

Record 1:

Coding:	B1	B2	В3	B4	B5	B6	В7	B8	В9	B10	B11	B12	B13
Hex	02	03	10	32	54	FF	FF	FF	FF	FF	FF	FF	FF

9.2.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- b) The user shall use an MMI dependent procedure to set up a call to the dialling number associated with the alpha identifier
 - "Hotline001122334455667788ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789abcdefghijklmnopqrstuvwxyz0123456789" in record 1 of EF_{SDN}.
- c) The user shall end the call.
- d) The user shall use an MMI dependent procedure to set up a call to the dialling number associated with the "Hotline003" in record 3 of EF_{SDN} .
- e) The user shall end the call.
- f) The user shall use an MMI dependent procedure to select and to set up a call to the dialling number "+007" stored in record 4 of EF_{SDN}.
- g) The user shall end the call and switch the terminal off.

9.2.5 Acceptance criteria

- After step a) the terminal shall have activated the USIM application and shall have read the status of the SDN service in EF_{UST}.
- After step b) the terminal shall have read record 1 of EF_{SDN} and a call to "+22223333" shall have been established.
- 3) After step c) the call shall have been terminated.
- 4) After step d) the terminal shall have read record 3 of EF_{SDN} and record 1 of EF_{EXT1} and a call to "+01234567890123456789012345" shall have been established.
- 5) After step e) the call shall have been terminated.
- 6) After step f) the terminal shall have read record 4 of EF_{SDN} and a call to "+007" shall have been established.

10 CSG list handling

10.1 CSG list handling for E-UTRA

10.1.1 Automatic CSG selection in E-UTRA with CSG list on USIM, success

10.1.1.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

10.1.1.2 Conformance requirement

When a UE in idle mode detects the presence of a permissible CSG cell (a CSG cell whose CSG identity is in the UE's white list), the UE shall select the CSG cell.

The ME shall read the allowed CSG IDs from EF_{ACSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

- TS 22.011 [6], clause 8.2.2.1;
- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.

10.1.1.3 Test purpose

To verify that the ME only selects a CSG cell if the CSG IDs of the cell is found in the allowed CSG IDs from EF_{ACSGL}

10.1.1.4 Method of test

10.1.1.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 05

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

10.1.1.4.2 Procedure

- a) The UE is powered on.
- b) After 2 minutes the E-USS stops all RF output for the first cell with TAI 246/081/0001 on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:
 - csg-Identity: 03

The E-USS then resumes RF output on the BCCH.

c) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.

d) During registration and after receipt of a *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266436587"

- e) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease to the UE*.
- f) The UE is soft powered down.

10.1.1.5 Acceptance criteria

- 1) After steps a) the terminal shall not attempt an Attach procedure.
- 2) After step b) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the e-USS.
- 3) During step c) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step d) the terminal shall respond with AttachComplete during registration.
- 5) After step e) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: 24608100010266436587

Last visited registered TAI: 246/081/0001

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	16	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	87	42	16	80	00	01	00				

10.1.2 Automatic CSG selection in E-UTRA with CSG list on USIM, removal of CSG ID from the USIM

10.1.2.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

10.1.2.2 Conformance requirement

When a UE in idle mode detects the presence of a permissible CSG cell (a CSG cell whose CSG identity is in the UE"s white list), the UE shall select the CSG cell.

The ME shall read the allowed CSG IDs from EF_{ACSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE receives ATTACH REJECT with cause #25 (Not authorized for this CSG) with integrity protection, the UE shall remove the CSG ID of the cell where the UE has sent the ATTACH REQUEST message from the Allowed CSG list.

- TS 22.011 [6], clause 8.2.2.1;
- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.301 [26], clause 5.5.1.2.5

10.1.2.3 Test purpose

To verify that the ME removes the CSG ID from the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the ATTACH REQUEST message which was rejected with cause #25 by the E-USS.

10.1.2.4 Method of test

10.1.2.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 03

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

10.1.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachReject* to the UE with cause #25 (Not authorized for this CSG) with integrity protection, followed by *RRCConnectionRelease*.
- d) The UE is soft powered down.

10.1.2.5 Acceptance criteria

- 1) After step a) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the E-USS.
- 2) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 3) After step c) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: GUTI: not checked

Last visited registered TAI: 246/081/0001

EPS update status: ROAMING NOT ALLOWED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	XX	XX	XX	XX	XX						
	B12	B13	B14	B15	B16	B17	B18				
	XX	42	16	80	XX	XX	02				

EFACSGL (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

Coding:	A0	0D	80	03	42	16	80	81	06	02
	02	00	00	00	5F					

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note the 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

10.1.3 Manual CSG selection in E-UTRA with CSG list on USIM, success

10.1.3.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.1.3.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} shall take precedence over the list stored in the ME non-volatile memory.

In manual CSG selection mode, the ME indicates to the user the list of available CSGs in the currently selected PLMN. The list of CSGs presented to the user is not restricted by the allowed CSG list.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list.

- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.301 [26], clause 5.5.3.2.4

10.1.3.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was accepted by the E-USS.

10.1.3.4 Method of test

10.1.3.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: FALSE

- csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

10.1.3.4.2 Procedure

a) The UE is powered on.

- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0002

GUTI: "24608100010266436599"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- i) The UE is soft powered down.

10.1.3.5 Acceptance criteria

- 1) After step b) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the e-USS.
- 3) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step c) the terminal shall respond with AttachComplete during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the e-USS.
- 7) During step f) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step g) the terminal shall respond with *TrackingAreaUpdatComplete* during registration.
- 9) After step i) the USIM shall contain the following values:

EF_{EPSLOCI} (**EPS** Information)

Logically: GUTI: 24608100010266436599

Last visited registered TAI: 246/081/0002

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	16	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	99	42	16	80	00	02	00				

EFACSGL (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

1st CSG list 2nd CSG Type indication 03

1st CSG list 2nd CSG HNB Name indication 03

1st CSG list 2nd CSG CSG ID:03 (27bit)

1st CSG list 3rd CSG Type indication 'xx' (not checked) 1st CSG list 3rd CSG HNB Name indication 'xx' (not checked)

1st CSG list 3rd CSG CSG ID: 04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order. The CSG entries within each of the CSG lists are not sorted and may occur in arbitrary order.

10.1.4 Manual CSG selection in E-UTRA with CSG list on USIM, rejected

10.1.4.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.1.4.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} shall take precedence over the list stored in the ME non-volatile memory.

In manual CSG selection mode, the ME indicates to the user the list of available CSGs in the currently selected PLMN. The list of CSGs presented to the user is not restricted by the allowed CSG list.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE REJECT message with cause #25 (Not authorized for this CSG) with integrity protection, shall remove the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message if the CSG ID is contained in the Allowed CSG list.

- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.301 [26], clause 5.5.3.2.5

10.1.4.3 Test purpose

To verify that the ME does not add the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was rejected by the E-USS.

10.1.4.4 Method of test

10.1.4.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: FALSE

csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

10.1.4.4.2 Procedure

a) The UE is powered on.

- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of a *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease*, to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of an *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateReject* to the UE with cause #25 (Not authorized for this CSG) with integrity protection, followed by *RRCConnectionRelease* to the UE.
- h) The UE is soft powered down.

10.1.4.5 Acceptance criteria

- 1) After step a) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the E-USS.
- 3) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5.) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send a RRCConnectionRequest on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the E-USS.
- 7) During step f) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step h) the USIM shall contain the following values:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: not checked

Last visited registered TAI: 246/081/0001

EPS update status: ROAMING NOT ALLOWED

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	XX	XX	XX	XX	XX						
	B12	B13	B14	B15	B16	B17	B18				
	XX	42	16	80	00	01	02				

EFACSGL (Allowed CSG Lists)

Content not changed, shall be the same as defined in clause 4.4.5.

10.1.5 CSG selection in E-UTRA with no CSG list on USIM, no IMSI change

10.1.5.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.1.5.2 Conformance requirement

In manual CSG selection mode, the ME indicates to the user the list of available CSGs in the currently selected PLMN. The list of CSGs presented to the user is not restricted by the allowed CSG list.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list.

If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM. The allowed CSG list is stored in a non-volatile memory in the ME if the UE supports CSG selection. These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.301 [26], clause 5.5.3.2.4 and Annex C.

10.1.5.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in a non-volatile memory in the ME together with the IMSI from the USIM in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was accepted by the E-USS as the corresponding file is not present on the simulated USIM.

To verify that the ME still has this CSG ID stored in the Allowed CSG list available together with the IMSI after powered down and up in case the IMSI of the USIM has not changed.

To verify that the ME removes the CSG ID from the Allowed CSG list inside the terminal in case this CSG ID belongs to the cell where the ME has sent the ATTACH REQUEST message which was rejected with cause #25 by the E-USS.

10.1.5.4 Method of test

10.1.5.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: FALSE

csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/081/0002.

Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default UICC (without the service "Allowed CSG Lists and corresponding indications") is installed into the Terminal.

The ME shall not have csg-ID = 04 nor csg-ID=06 in the allowed CSG list stored in a non-volatile memory in the ME and the ME is set to automatic PLMN selection mode.

10.1.5.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with the following parameters to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with the following parameters to the UE:

TAI (MCC/MNC/TAC):246/081/TACs: 0002

GUTI: "24608100010266345699"

- h) After receipt of the *TrackingAreaUpdateComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- i) The UE is switched off and performs the *Detach* procedure.
- j) The default UICC remains in use.

k) The E-USS shall change the BCCH for the cell transmitting TAI 246/081/0001 to the following network parameters:

- csg-Indication: TRUE

- csg-Identity: 06

- 1) The UE is powered on.
- m) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- n) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachReject* to the UE with cause #25 (Not authorized for this CSG) with integrity protection, followed by *RRCConnectionRelease*.
- o) The UE is soft powered down.
- p) The default UICC remains in use.
- q) The UE is powered on.
- r) After 2 minutes the UE is soft powered down.

10.1.5.5 Acceptance criteria

- 1) After step a) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the E-USS.
- 3) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the E-USS.
- 7) During step f) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step g) the terminal shall respond with TrackingAreaUpdateComplete during registration.
- 9) After step l) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the E-USS.
- 10) During step n) the terminal shall send AttachRequest to the E-USS.
- 10a) After step n) the terminal shall not try to register to the E-USS using the same CSG ID which was rejected in step n).
- 11) After step q) the terminal shall not try to register to the E-USS using the same CSG ID which was rejected in step n).

10.1.6 CSG selection in E-UTRA with no CSG list on USIM, with IMSI change

10.1.6.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication

that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.1.6.2 Conformance requirement

In manual CSG selection mode, the ME indicates to the user the list of available CSGs in the currently selected PLMN. The list of CSGs presented to the user is not restricted by the allowed CSG list..

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list.

If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM. The allowed CSG list is stored in a non-volatile memory in the ME if the UE supports CSG selection. These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.301 [26], clause 5.5.3.2.4 and Annex C.

10.1.6.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in a non-volatile memory in the ME together with the IMSI from the USIM in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was accepted by the E-USS as the corresponding file is not present on the simulated USIM.

To verify that the ME removes this CSG ID stored in the Allowed CSG list available together with the IMSI after powered down and up in case the IMSI of the USIM has changed.

10.1.6.4 Method of test

10.1.6.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

Access control: unrestricted.

- csg-Indication: FALSE

- csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default UICC (without the service "Allowed CSG Lists and corresponding indications") is installed into the Terminal.

The ME shall not have csg-ID = 04 nor csg-ID=06 in the allowed CSG list stored in a non-volatile memory in the ME and the ME is set to automatic PLMN selection mode.

10.1.6.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the following parameters the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS may initiate authentication, may start integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with the following parameters to the UE:

TAI (MCC/MNC/TAC):246/081/0002

GUTI: "24608100010266345699"

- h) After receipt of the *TrackingAreaUpdateComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- i) The UE is switched off and performs the *Detach* procedure.
- j) A new UICC with the following configuration is activated:

The default UICC with the following exception: The IMSI is set to "246081222233333".

k) The E-USS shall change the BCCH for the cell transmitting TAI 246/081/0001 to the following network parameters:

- csg-Indication: TRUE

- csg-Identity: 06

1) The UE is powered on.

m) After 2 minutes the UE is soft powered down.

10.1.6.5 Acceptance criteria

- 1) After step b) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the e-USS.
- 3) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the e-USS.
- 7) During step f) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step g) the terminal shall respond with *TrackingAreaUpdateComplete* during registration.
- 9) After step l) the terminal shall not try to register to the E-USS.

10.1.7 Manual CSG selection without display restrictions in E-UTRA with ACSG list and OCSG list on USIM

10.1.7.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects a CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

Editor's note: it is still being investigated whether the testing of Automatic CSG selection should be performed using a separate test case or an enhanced version of the Manual CSG selection test case.

10.1.7.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} and EF_{OCSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} and EF_{OCSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list EF_{ACSGL}.

By default, the UE shall display all available CSGs for any PLMN, unless the UE has been configured by the HPLMN, for a specific PLMN, to display only CSGs in the Operator CSG List that are available.

- TS 31.102 [4], clauses 4.2.18, 4.4.6.2, 4.4.6.5 and 5.8.1;
- TS 24.301 [26], clause 5.5.3.2.4
- TS 22.220 [34], clause 5.3.2 and 5.5.4

10.1.7.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was accepted by the E-USS. During the manual CSG selection all available CSG ID shall be displayed without restrictions.

10.1.7.4 Method of test

10.1.7.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

- csg-Indication: FALSE

csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/081/0002.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default ACSGL/OCSGL E-UTRAN/EPC UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection and manual CSG selection mode.

10.1.7.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.

g) During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0002

GUTI: "24608100010266436599"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- i) The UE is soft powered down.

10.1.7.5 Acceptance criteria

- 1) After step b) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the e-USS.
- 3) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the E-USS.
- 7) During step f) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step g) the terminal shall respond with TrackingAreaUpdatComplete during registration.
- 9) After step i) the USIM shall contain the following values:

EFEPSLOCI (EPS Information)

Logically: GUTI: 24608100010266436599

Last visited registered TAI: 246/081/0002

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	16	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	99	42	16	80	00	02	00				

EFACSGL (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

1st CSG list 2nd CSG Type indication 03

1st CSG list 2nd CSG HNB Name indication 03

1st CSG list 2nd CSG CSG ID:03 (27bit)

1st CSG list 2nd CSG CSG ID:03 (27bit)

1st CSG list 3rd CSG Type indication 'xx' (not checked)

1st CSG list 3rd CSG HNB Name indication 'xx' (not checked)

1st CSG list 3rd CSG CSG ID:04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

EFocsgl (Operator CSG Lists)

Unchanged values as defined in 4.6.3

10.1.8 Manual CSG selection with display restrictions in E-UTRA with ACSG list and OCSG list on USIM

10.1.8.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects a CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.1.8.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} and EF_{OCSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} and EF_{OCSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the TRACKING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the TRACKING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list EF_{ACSGL}.

By default, the UE shall display all available CSGs for any PLMN, unless the UE has been configured by the HPLMN, for a specific PLMN, to display only CSGs in the Operator CSG List that are available.

- TS 31.102 [4], clauses 4.2.18, 4.4.6.2, 4.4.6.5 and 5.8.1;
- TS 24.301 [26], clause 5.5.3.2.4
- TS 22.220 [34], clause 5.3.2 and 5.5.4

10.1.8.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the TRACKING AREA UPDATE REQUEST message which was accepted by the E-USS. During the manual CSG selection all available CSG ID shall be displayed with restrictions.

10.1.8.4 Method of test

10.1.8.4.1 Initial conditions

For this test an E-USS is required.

The E-USS transmits on two cells, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

Access control: unrestricted.

- csg-Indication: FALSE

- csg-Identity: not present

- TAI (MCC/MNC/TAC): 246/080/0002.

Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default ACSGL/OCSGL E-UTRAN/EPC UICC is used except the following change:

EF_{AD} (Administrative Data)

Logically: Normal operation + specific facilities

Ciphering indicator feature disabled

MNC: 3 digit

For every PLMN not included in EF_OCSGL or any PLMN for which a CSG display indicator tag is not present, only the available CSGs found in the Operator CSG list shall be displayed (B3)

Coding:	B1	B2	B3	B4
Hex	01	00	02	03

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection and manual CSG selection mode.

10.1.8.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall not indicate the availability of a cell with csg-Identity 04 for PLMN 246/080, this shall be verified for 2 minutes.
- f) The E-USS stops all RF output for the first cell with TAI 246/081/0001 on the BCCH. The BCCH is changed to contain:

- TAI (MCC/MNC/TAC): 246/081/0002

- csg-Indication: TRUE

- csg-Identity:04

The E-USS then resumes RF output on the BCCH.

- g) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- h) After receipt of an *RRCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the E-USS.
- During registration and after receipt of a *TrackingAreaUpdateRequest* from the UE, the E-USS initiates authentication, starts integrity by using the security procedure and sends *TrackingAreaUpdateAccept* with to the UE:

TAI (MCC/MNC/TAC):246/081/0002

GUTI: "24608100010266436599"

- j) After receipt of the TrackingAreaUpdatComplete during registration from the UE, the E-USS sends RRCConnectionRelease to the UE.
- k) The UE is soft powered down.

10.1.8.5 Acceptance criteria

- 1) After step b) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001 to the E-USS.
- 2) During step b) the terminal shall send *AttachRequest* to the E-USS.
- 3) After step c) the terminal shall respond with Attach Complete during registration.
- 4) During step e) the UE shall not provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/080 to the user.
- 5) During step g) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step h) the UE shall send an *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002 to the E-USS.
- 7) During step i) the terminal shall send *TrackingAreaUpdateRequest* to the E-USS.
- 8) After step j) the terminal shall respond with TrackingAreaUpdatComplete during registration.
- 9) After step k) the USIM shall contain the following values:

EFEPSLOCI (**EPS Information**)

Logically: 24608100010266436599

Last visited registered TAI: 246/081/0002

EPS update status: updated

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	0B	F6	42	16	80	00	01	02	66	43	65
	B12	B13	B14	B15	B16	B17	B18				
	99	42	16	80	00	02	00				

EF_{ACSGL} (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

1st CSG list 2nd CSG Type indication 03

1st CSG list 2nd CSG HNB Name indication 03

1st CSG list 2nd CSG CSG ID: 03 (27bit)

1st CSG list 3rd CSG Type indication 'xx' (not checked)
1st CSG list 3rd CSG HNB Name indication 'xx' (not checked)

1st CSG list 3rd CSG CSG ID: 04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

EFOCSGL (Operator CSG Lists)

Unchanged values as defined in 4.6.3

10.2 CSG list handling for UTRA

10.2.1 Manual CSG selection without display restrictions in UTRA with ACSG list and OCSG list on USIM

10.2.1.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects a CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

Editor's note: it is still being investigated whether the testing of Automatic CSG selection should be performed using a separate test case or an enhanced version of the Manual CSG selection test case.

10.2.1.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} and EF_{OCSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} and EF_{OCSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the ROUTING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the ROUTING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list EF_{ACSGL} .

By default, the UE shall display all available CSGs for any PLMN, unless the UE has been configured by the HPLMN, for a specific PLMN, to display only CSGs in the Operator CSG List that are available.

- TS 31.102 [4], clauses 4.2.18, 4.4.6.2, 4.4.6.5 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 22.220 [34], clause 5.3.2 and 5.5.4

10.2.1.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the ROUTING AREA UPDATE REQUEST message which was accepted by the USS. During the manual CSG selection all available CSG ID shall be displayed without restrictions.

10.2.1.4 Method of test

10.2.1.4.1 Initial conditions

For this test an USS is required.

The USS transmits on two cells, with the following network parameters:

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/01.

- Access control: unrestricted.

- csg-Indication: FALSE

- csg-Identity: not present

- RAI (MCC/MNC/LAC/RAC): 246/081/0002/02.

Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default ACSGL/OCSGL E-UTRAN/EPC UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection and manual CSG selection mode.

10.2.1.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

RAI (MCC/MNC/LAC/RAC): 246/081/0001/01

P-TMSI "87512890"

- d) After receipt of the *AttachComplete* during registration from the UE, the USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- g) During registration and after receipt of a RoutingAreaUpdateRequest from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends RoutingAreaUpdateAccept with to the UE:

RAI (MCC/MNC/LAC/RAC): 246/081/0002/02

P-TMSI "34567890"

- h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the USS sends *RRCConnectionRelease* to the UE.
- i) The UE is soft powered down.

10.2.1.5 Acceptance criteria

- 1) After step b) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01 to the USS.
- 3) During step C) the terminal shall send *AttachRequest* to the USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.

- 6) After step e) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02 to the USS.
- 7) During step g) the terminal shall send *RoutingAreaUpdateRequest* to the USS.
- 8) After step g) the terminal shall respond with RoutingAreaUpdatComplete during registration.
- 9) After step i) the USIM shall contain the following values:

EFPSLOCI (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 RAI-LAC: 0002 RAI-RAC: 02 P-TMSI: "34567890"

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	XX	XX	XX	42	16	80	00
Coding:	B12	B13	B14								
Lov	02	02	00								

EFACSGL (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

1st CSG list 2nd CSG Type indication 03

1st CSG list 2nd CSG HNB Name indication 03

1st CSG list 2nd CSG CSG ID: 03 (27bit)

1st CSG list 3rd CSG Type indication 'xx' (not checked) 1st CSG list 3rd CSG HNB Name indication 'xx' (not checked)

 1^{st} CSG list 3^{rd} CSG CSG ID: 04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

EFocsgl (Operator CSG Lists)

Unchanged values as defined in 4.6.3

10.2.2 Manual CSG selection with display restrictions in UTRA with ACSG list and OCSG list on USIM

10.2.2.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects a CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

10.2.2.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} and EF_{OCSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} and EF_{OCSGL} shall take precedence over the list stored in the ME non-volatile memory.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the ROUTING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the ROUTING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list EF_{ACSGL} .

By default, the UE shall display all available CSGs for any PLMN, unless the UE has been configured by the HPLMN, for a specific PLMN, to display only CSGs in the Operator CSG List that are available.

- TS 31.102 [4], clauses 4.2.18, 4.4.6.2, 4.4.6.5 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 22.220 [34], clause 5.3.2 and 5.5.4

10.2.2.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the ROUTING AREA UPDATE REQUEST message which was accepted by the USS. During the manual CSG selection all available CSG ID shall be displayed with restrictions.

10.2.2.4 Method of test

10.2.2.4.1 Initial conditions

For this test an USS is required.

The USS transmits on two cells, with the following network parameters:

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/01.

Access control: unrestricted.

- csg-Indication: FALSE

csg-Identity: not present

- RAI (MCC/MNC/LAC/RAC): 246/080/0002/02.

- Access control: unrestricted.

- csg-Indication: TRUE

- csg-Identity: 04

The default ACSGL/OCSGL E-UTRAN/EPC UICC is used except the following change:

EF_{AD} (Administrative Data)

Logically: Normal operation + specific facilities

Ciphering indicator feature disabled

MNC: 3 digit

For every PLMN not included in EF_OCSGL or any PLMN for which a CSG display indicator tag is not present, only the available CSGs found in the Operator CSG list shall be displayed (B3)

Coding:	B1	B2	В3	B4	
Hex	01	00	02	03	

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection and manual CSG selection mode.

10.2.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

RAI (MCC/MNC/LAC/RAC): 246/081/0001/01

P-TMSI "87512890"

- d) After receipt of the *AttachComplete* during registration from the UE, the USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall not indicate the availability of a cell with csg-Identity 04 for PLMN 246/080, this shall be verified for 2 minutes.
- f) The USS stops all RF output for the first cell with RAI 246/081/0001/01 on the BCCH. The BCCH is changed to contain:
 - RAI (MCC/MNC/LAC/RAC): 246/081/0002/02.
 - csg-Indication: TRUE
 - csg-Identity:04

The USS then resumes RF output on the BCCH.

- g) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- h) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- During registration and after receipt of a RoutingAreaUpdateRequest from the UE, the USS initiates
 authentication, starts integrity by using the security procedure and sends RoutingAreaUpdateAccept with to the
 UE:

RAI (MCC/MNC/TAC): 246/081/0002/02

P-TMSI "34567890"

- j) After receipt of the RoutingAreaUpdatComplete during registration from the UE, the USS sends RRCConnectionRelease to the UE.
- k) The UE is soft powered down.

10.2.2.5 Acceptance criteria

- 1.) After step b) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01 to the USS.
- 3) During step c) the terminal shall send *AttachRequest* to the USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall not provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/080 to the user.
- 6) During step g) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6a) After step g) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02 to the USS.
- 7) During step i) the terminal shall send *RoutingAreaUpdateRequest* to the USS.
- 8) After step i) the terminal shall respond with RoutingAreaUpdatComplete during registration.
- 9) After step k) the USIM shall contain the following values:

EFPSLOCI (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 RAI-LAC: 0002 RAI-RAC: 02 P-TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	XX	XX	XX	42	16	80	00
Coding:	B12	B13	B14								
Hex	02	02	00		1						

EF_{ACSGL} (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC) 1st CSG list 1st CSG Type indication 02 1st CSG list 1st CSG HNB Name indication 02 1st CSG list 1st CSG CSG ID: 02 (27bit) 1st CSG list 2nd CSG Type indication 03 1st CSG list 2nd CSG HNB Name indication 03 1^{st} CSG list 2^{nd} CSG CSG ID:03 (27bit) 1st CSG list 3rd CSG Type indication 'xx' (not checked)

1st CSG list 3rd CSG HNB Name indication 'xx' (not checked) 1st CSG list 3rd CSG CSG ID: 04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC) 2nd CSG list 1st CSG Type indication 08 2nd CSG list 1st CSG HNB Name indication 08 2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

EFocsgl (Operator CSG Lists)

Unchanged values as defined in 4.6.3

10.2.3 Manual CSG selection in UTRA with CSG list on USIM, success

10.2.3.1 Definition and applicability

A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells). A CSG cell is part of the PLMN, broadcasting a CSG indication that is set to TRUE and a specific CSG identity. A CSG cell is accessible by the members of the closed subscriber group for that CSG identity. For a CSG cell, the UE shall check the broadcast CSG ID against the Allowed CSG list provided by NAS to check whether a CSG cell is suitable for the UE.

A UE supporting CSG selection selects CSG cell either automatically based on the list of allowed CSG identities or manually based on user selection of CSG on indication of list of available CSGs.

Editor's note: it is still being investigated whether the testing of both the unsuccessful Manual CSG selection and the Automatic CSG selection should be performed using a separate test case or an enhanced version of the Manual CSG selection test case.

10.2.3.2 Conformance requirement

The ME shall read the allowed CSG IDs from EF_{ACSGL} in order to perform HNB selection procedures. The lists in EF_{ACSGL} shall take precedence over the list stored in the ME non-volatile memory.

In manual CSG selection mode, the ME indicates to the user the list of available CSGs in the currently selected PLMN. The list of CSGs presented to the user is not restricted by the allowed CSG list.

If the MS supports CSG, it is provisioned with a list of allowed CSG identities and associated PLMN identities from the USIM if the list is available in the USIM.

If the UE supporting CSG selection has attempted manual CSG selection, the UE, when receiving the ROUTING AREA UPDATE ACCEPT message, shall check if the CSG ID of the cell where the UE has sent the ROUTING AREA UPDATE REQUEST message is contained in the Allowed CSG list. If not, the UE shall add that CSG ID to the Allowed CSG list.

- TS 31.102 [4], clauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], clause 3.1A.
- TS 24.008 [16], clause 4.7.5.1.3

10.2.3.3 Test purpose

To verify that the ME adds the CSG ID to the Allowed CSG list in EF_{ACSGL} in case this CSG ID belongs to the cell where the ME has sent the ROUTING AREA UPDATE REQUEST message which was accepted by the USS.

10.2.3.4 Method of test

10.2.3.4.1 Initial conditions

For this test an USS is required.

The USS transmits on two cells, with the following network parameters:

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/01.
- Access control: unrestricted.
- csg-Indication: FALSE
- csg-Identity: not present
- RAI (MCC/MNC/LAC/RAC): 246/081/0002/02.
- Access control: unrestricted.
- csg-Indication: TRUE
- csg-Identity: 04

The default E-UTRAN UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

10.2.3.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends *AttachAccept* with to the UE:

RAI (MCC/MNC/LAC/RAC): 246/081/0001/01

P-TMSI "87512890"

- d) After receipt of the *AttachComplete* during registration from the UE, the USS sends *RRCConnectionRelease* to the UE.
- e) The MMI of the UE is used to perform manual CSG selection. The UE shall indicate the availability of a cell with csg-Identity 04 for PLMN 246/081. The user shall select this cell by using the MMI.
- f) After receipt of an *RRCConnectionRequest* from the UE on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- g) During registration and after receipt of a *RoutingAreaUpdateRequest* from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends *RoutingAreaUpdateAccept* with to the UE:

RAI (MCC/MNC/LAC/RAC): 246/081/0002/02

P-TMSI "34567890"

- h) After receipt of the *RoutingAreaUpdatComplete* during registration from the UE, the USS sends *RRCConnectionRelease* to the UE.
- i) The UE is soft powered down.

10.2.3.5 Acceptance criteria

- 1) After step a) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0001/01 to the USS.
- 3) During step c) the terminal shall send *AttachRequest* to the USS.
- 4) After step c) the terminal shall respond with *AttachComplete* during registration.
- 5) During step e) the UE shall provide during the manual CSG selection the information for a cell with csg-Identity 04 for PLMN 246/081 to the user.
- 6) After step e) the UE shall send an *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting RAI 246/081/0002/02 to the USS.
- 7) During step g) the terminal shall send RoutingAreaUpdateRequest to the USS.
- 8) After step g) the terminal shall respond with RoutingAreaUpdatComplete during registration.
- 9) After step i) the USIM shall contain the following values:

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 RAI-LAC: 0002 RAI-RAC: 02 P-TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	XX	XX	XX	42	16	80	00

Coding:	B12	B13	B14
Hex	02	02	00

EF_{ACSGL} (Allowed CSG Lists)

Logically:

1st CSG list

PLMN: 246 081 (MCC MNC)

1st CSG list 1st CSG Type indication 02

1st CSG list 1st CSG HNB Name indication 02

1st CSG list 1st CSG CSG ID: 02 (27bit)

1st CSG list 2nd CSG Type indication 03

1st CSG list 2nd CSG HNB Name indication 03

1st CSG list 2nd CSG CSG ID:03 (27bit)

1st CSG list 3rd CSG Type indication 'xx'

1st CSG list 3rd CSG HNB Name indication 'xx'

1st CSG list 3rd CSG CSG ID:04 (27bit)

Coding:	A0	1D	80	03	42	16	80	81	06	02
	02	00	00	00	5F	81	06	03	03	00
	00	00	7F	81	06	XX	XX	00	00	00
	9F									

2nd CSG list

PLMN: 244 081 (MCC MNC)

2nd CSG list 1st CSG Type indication 08

2nd CSG list 1st CSG HNB Name indication 08

2nd CSG list 1st CSG CSG ID: 08 (27bit)

Coding:	A0	0D	80	03	42	14	80	81	06	08
	08	00	00	01	1F					

Note: The 1st and 2nd CSG list may be stored together or separately in any record in arbitrary order.

11 NAS security context parameter handling

11.1 NAS security context parameter handling when service "EMM Information" is available

11.1.1 Definition and applicability

The security parameters for authentication, integrity protection and ciphering are tied together in an EPS security context and identified by a key set identifier for E-UTRAN (eKSI). The relationship between the security parameters is defined in 3GPP TS 33.401 [27].

The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

The EF_{EPSNSC} contains the EPS NAS Security context as defined in TS 33.401 [27]. This file shall contain only one record and shall be updated only when the requirements defined in TS 33.401 [27] are met.

11.1.2 Conformance requirement

EPS AKA is the authentication and key agreement procedure that shall be used over E-UTRAN.

Before security can be activated, the MME and the UE need to establish an EPS security context. Usually, the EPS security context is created as the result of an authentication procedure between MME and UE

421

The EPS security context parameters shall be stored on the USIM if the corresponding file is present, and shall be updated only when the requirements defined in TS 33.401 [27] are met.

If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

- TS 24.301 [6], clause 4.4.2.1 and Annex C;
- TS 31.102 [4], clause 4.2.92;
- TS 33.401 [27], clause 6.1.1, 7.2.5.1 and 7.2.5.2.1.

11.1.3 Test purpose

To verify that the ME generates the EPS security context identified by a key set identifier for E-UTRAN (eKSI) and stores all inside EF_{EPSNSC} if this EF is available and when the requirements defined in TS 33.401 [27], clauses 7.2.5.1 and 7.2.5.2.1 are met.

11.1.4 Method of test

11.1.4.1 Initial conditions

For this test an E-USS or a NB-SS is required.

The E-USS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The NB-SS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The default E-UTRAN UICC is used.

11.1.4.2 Procedure

- a) The UE is switched on.
- b) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of an *AttachRequest* (included in the *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB*) from the UE, the E-USS/NB-SS initiates the EPS authentication and AKA procedure. The E-USS/NB-SS uses

eKSI: '00'

d) Afterwards the E-USS/NB-SS transmits a (NAS) *SecurityModeCommand* message to activate NAS security, and after receiving (NAS) *SecurityModeComplete* from the UE, the E-USS/NB-SS sends *AttachAccept* to the UE with:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

e) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE

f) The UE or the UE's radio interface is switched off to perform the DETACH procedure.

11.1.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST} and EF_{EPSNSC}.
- 2) During step b) the UE shall indicate in the AttachRequest that no key is available
- 3) During step c) the UE shall send the AuthenticationResponse message.
- 4) During step d) the UE shall send the (NAS) SecurityModeComplete message
- 5) EF_{EPSNSC} shall not be updated during steps c) to e), unless for invalidating the content of EF_{EPSNSC}.

Note: Invalidation of EF_{EPSNSC} is described in TS 31.102 [4], clause 4.2.92.

- 6) After step f) the UE shall send DETACH REQUEST to the E-USS/NB-SS.
- 7) After step f) EF_{EPSNSC} shall contain:

EFEPSNSC (EPS NAS Security Context)

Logically: Key Set Identifier KSI_{ASME}: '00'

ASME Key (KSI_{ASME}): 32 byte key, value not checked

Uplink NAS count: any value Downlink NAS count: any value Identifiers of selected NAS any value

integrity and encryption

algorithm

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	 	 Bxx
Hex	A0	XX	80	01	00	81	XX	XX	 	 XX

11.2 NAS security context parameter handling when service "EMM Information" is not available, no IMSI change

11.2.1 Definition and applicability

The security parameters for authentication, integrity protection and ciphering are tied together in an EPS security context and identified by a key set identifier for E-UTRAN (eKSI). The relationship between the security parameters is defined in 3GPP TS 33.401 [27].

The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

The EF_{EPSNSC} contains the EPS NAS Security context as defined in TS 33.401 [27]. This file shall contain only one record.

11.2.2 Conformance requirement

EPS AKA is the authentication and key agreement procedure that shall be used over E-UTRAN.

423

Before security can be activated, the MME and the UE need to establish an EPS security context. Usually, the EPS security context is created as the result of an authentication procedure between MME and UE. The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

- TS 24.301 [6], clause 4.4.2.1 and Annex C;
- TS 31.102 [4], clause 4.2.92;
- TS 33.401 [27], clause 6.1.1.

11.2.3 Test purpose

To verify that the ME generates the EPS security context identified by a key set identifier for E-UTRAN (eKSI) and stores all inside a non-volatile memory in the ME as EMM information is not available on the USIM. During the test the IMSI on the USIM remains unchanged.

11.2.4 Method of test

11.2.4.1 Initial conditions

For this test an E-USS or a NB-SS is required.

The E-USS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The NB-SS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The default UICC (without the service "EMM Information") is installed into the Terminal and the UE is powered on.

11.2.4.2 Procedure

- a) The UE is switched on.
- b) After receipt of an *RRCConnectionRequest/RRCConnectionRequest-NB* from the UE the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of an *AttachRequest* (included in the *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB*) from the UE, the E-USS/NB-SS initiates the EPS authentication and AKA procedure. The E-USS/NB-SS uses

eKSI: 00

d) Afterwards the E-USS/NB-SS transmits a (NAS) *SecurityModeCommand* message to activate NAS security, and after receiving (NAS) *SecurityModeComplete* from the UE, the E-USS/NB-SS sends *AttachAccept* to the UE with:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

- e) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE
- f) The UE is switched off and performs the *Detach* procedure.
- g) The default UICC remains in use.
- h) The Terminal is switched on.
- i) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- j) During registration and after receipt of an AttachRequest (included in the RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB) from the UE, E-USS/NB-SS transmits a (NAS) SecurityModeCommand message to activate NAS security using the last known K_{ASME}, and after receiving (NAS) SecurityModeComplete from the UE, the E-USS/NB-SS sends AttachAccept to the UE with:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345619"

k) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE

11.2.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST}
- 2) During step c) the UE shall send the AuthenticationResponse message.
- 3) During step d) the UE shall send the (NAS) SecurityModeComplete message
- 4) During step j) UE shall indicate in the AttachRequest eKSI as 00
- 5) During step j) the UE shall send the (NAS) SecurityModeComplete message
- 6) During step k) the UE shall send the AttachComplete message

11.3 NAS security context parameter handling when service "EMM Information" is not available, IMSI changed

11.3.1 Definition and applicability

The security parameters for authentication, integrity protection and ciphering are tied together in an EPS security context and identified by a key set identifier for E-UTRAN (eKSI). The relationship between the security parameters is defined in 3GPP TS 33.401 [27].

The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

The EF_{EPSNSC} contains the EPS NAS Security context as defined in TS 33.401 [27]. This file shall contain only one record.

11.3.2 Conformance requirement

EPS AKA is the authentication and key agreement procedure that shall be used over E-UTRAN.

Before security can be activated, the MME and the UE need to establish an EPS security context. Usually, the EPS security context is created as the result of an authentication procedure between MME and UE. The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a non-volatile memory in the ME together with the IMSI from the USIM.

These EMM parameters can only be used if the IMSI from the USIM matches the IMSI stored in the non-volatile memory; else the UE shall delete the EMM parameters.

- TS 24.301 [6], clause 4.4.2.1 and Annex C;
- TS 31.102 [4], clause 4.2.92;
- TS 33.401 [27], clause 6.1.1.

11.3.3 Test purpose

- 1.) To verify that the ME generates the EPS security context identified by a key set identifier for E-UTRAN (eKSI) and stores all inside a non-volatile memory in the ME as EMM information is not available on the USIM.
- 2.) To verify that UE deletes existing EMM parameters from the ME's non-volatile memory in case a different IMSI is activated.

11.3.4 Method of test

11.3.4.1 Initial conditions

For this test an E-USS or NB-SS is required.

The E-USS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The NB-SS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The default UICC (without the service "EMM Information") is installed into the Terminal and the UE is powered on.

11.3.4.2 Procedure

- a) The UE is switched on.
- b) After receipt of an RRCConnectionRequest/RRCConnectionRequest-NB from the UE the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- c) During registration and after receipt of an *AttachRequest* (included in the *RRCConnectionSetupComplete*) from the UE, the E-USS/NB-SS initiates the EPS authentication and AKA procedure. The E-USS/NB-SS uses

eKSI: 00

d) Afterwards the E-USS/NB-SS transmits a (NAS) *SecurityModeCommand* message to activate NAS security, and after receiving (NAS) *SecurityModeComplete* from the UE, the E-USS/NB-SS sends *AttachAccept* to the UE with:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

e) After receipt of the AttachComplete during registration from the UE, the E-USS/NB-SS sends RRCConnectionRelease, to the UE

426

- f) The UE is switched off and performs the *Detach* procedure.
- g) A new UICC with the following configuration is activated:

The default UICC with the following exception: The IMSI is set to "246081222233333".

- h) The Terminal is switched on.
- i) After receipt of an RRCConnectionRequest from the UE the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- j) During registration and after receipt of an ATTACH REQUEST (included in the RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB) from the UE, E-USS/NB-SS transmits a (NAS) SecurityModeCommand message to activate NAS security using the last known K_{ASME}.
- k) The UE responds with (NAS) SecurityModeReject.
- 1) The E-USS/NB-SS sends RRCConnectionRelease/RRCConnectionRelease-NB to the UE

11.3.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST}
- 2) During step c) the UE shall send the AuthenticationResponse message.
- 3) During step d) the UE shall send the (NAS) SecurityModeComplete message
- 4) During step j) UE shall indicate in the AttachRequest that no key is available
- 5) After step j) the UE shall send the (NAS) SecurityModeReject message

11.4 **EPS NAS Security Context Storage**

11.4.1 Definition and applicability

The security parameters for authentication, integrity protection and ciphering are tied together in an EPS security context and identified by a key set identifier for E-UTRAN (eKSI). The relationship between the security parameters is defined in 3GPP TS 33.401 [27].

The EPS security context parameters shall be stored on the USIM if the corresponding file is present. If the corresponding file is not present on the USIM, these EMM parameters except allowed CSG list are stored in a nonvolatile memory in the ME together with the IMSI from the USIM.

The EF_{EPSNSC} contains the EPS NAS Security context as defined in TS 33.401 [27]. This file shall contain only one record and shall be updated only when the requirements defined in TS 33.401 [27] are met.

11.4.2 Conformance requirement

EPS AKA is the authentication and key agreement procedure that shall be used over E-UTRAN.

Before security can be activated, the MME and the UE need to establish an EPS security context. Usually, the EPS security context is created as the result of an authentication procedure between MME and UE The EPS security context parameters shall be stored on the USIM if the corresponding file is present, and shall be updated only when the requirements defined in TS 33.401 [27] are met.

- TS 24.301 [6], clause 4.4.2.1 and Annex C;
- TS 31.102 [4], clause 4.2.92 and 5.2.28;
- TS 33.401 [27], clause 6.1.1, 7.2.5.2, 7.2.6.1, and 7.2.6.3,

11.4.3 Test purpose

The update of EPS NAS security context shall be according to the rules and procedures specified in TS 33.401 [27], clause 6.1.1, 7.2.5.2, 7.2.6.1, and 7.2.6.3,

11.4.4 Method of test

11.4.4.1 Initial conditions

For this test an E-USS or a NB-SS is required.

The E-USS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The NB-SS transmits on one cell, with the following network parameters:

- TAI (MCC/MNC/TAC):246/081/0001.
- Access control: unrestricted.

The default E-UTRAN UICC is used.

11.4.4.2 Procedure

- a) The UE is switched on.
- b) After receipt of an *RRCConnectionRequest/RRCConnectionRequest-NB* from the UE the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- c) The E-USS/NB-SS receives an *AttachRequest* (included in the *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB*) from the UE.
- d) The E-USS/NB-SS initiates the EPS authentication and AKA procedure. The E-USS/NB-SS uses

eKSI: '00'

e) Afterwards the E-USS/NB-SS transmits a (NAS) *SecurityModeCommand* message to activate NAS security, and after receiving (NAS) *SecurityModeComplete* from the UE, the E-USS/NB-SS sends *AttachAccept* to the UE with:

TAI (MCC/MNC/TAC):246/081/0001

GUTI: "24608100010266345678"

f) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE

- g) The E-USS/NB-SS sends Paging/Paging-NB to the UE using the S-TMSI with CN domain indicator set to "PS'.
- h) After receipt of a RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- i) The terminal sends:
 - for WB-S1: EMM Service Request followed by the activation of AS security by the E-USS and the Dedicated EPS bearer.
 - for NB-IoT: Service Request, the NB-SS sends SERVICE ACCEPT
- j) The following is checked:
 - for WB-S1: After keeping the Dedicated EPS Bearer active for 5 seconds, the E-USS sends *RRCConnectionRelease* to the UE.
 - for NB-IoT: After keeping the Default EPS Bearer active for 5 seconds, the NB-SS sends *RRCConnectionRelease-NB* to the UE.

11.4.5 Acceptance criteria

- 1) After step a) the UE shall read EF_{UST} and EF_{EPSNSC}.
- 2) After step a) and before step d) the UE shall either keep the content of EF_{EPSNSC} as specified in the initial conditions or invalidate the content of EF_{EPSNSC} as described in TS 31.102 [4], clause 4.2.92.
- 3) During step d) the UE shall send the AuthenticationResponse message.
- 4) During step e) the UE shall send the (NAS) SecurityModeComplete message
- 5) After step f) the UE shall have entered idle mode.
- 6) After step i) the UE shall have
 - for WB-S1: a Dedicated EPS bearer established.
 - for NB-IoT: a Default bearer established.
- 7) During steps d), e), f), g), h) i) and j) the UE shall not update EF_{EPSNSC}.

12 Non Access Stratum (NAS) Configuration parameter handling

12.1 EF_{NASCONFIG} – NAS signaling priority handling

12.1.1 Definition and applicability

If the UE is configured for NAS signalling priority (see 3GPP TS 24.368 [36], 3GPP TS 31.102 [4]), the UE shall indicate this by including the Device properties IE in the appropriate NAS message and setting the low priority indicator to "MS is configured to NAS signalling low priority". This NAS signalling low priority indication can be used by the network for NAS level mobility management congestion control on a per core network node basis and APN based congestion control.

The test case is covered in TS 34.123-1 [38] clauses 9.4.3.7, 9.4.5.5, 11.1.1.3, 11.1.1.4, 11.1.3.4, 11.2.2.3, 12.4.1.1e and 12.4.3.2a. Refer to CR #0229 for details.

- 12.1.2 Void
- 12.1.3 Void
- 12.1.4 Void
- 12.1.5 Void

12.2 EF_{NASCONFIG} – NMO I Network Mode of Operation I handling

12.2.1 Definition and applicability

The behaviour of the UE with respect to NMO I is determined by the combination of PS domain specific system information IE and the setting of the parameter "NMO_I_Behaviour" in the NAS configuration Management Object as specified in 3GPP TS 24.368 [36] or in USIM file NASCONFIG as specified in 3GPP TS 31.102 [4].

The test case is covered in TS 34.123-1 [38] clause 12.2.2.3a. Refer to CR #0230 for details.

- 12.2.2 Void
- 12.2.3 Void
- 12.2.4 Void
- 12.2.5 Void

12.3 EFNASCONFIG – Attach with IMSI handling

12.3.1 Definition and applicability

The AttachWithIMSI leaf indicates whether attach with IMSI is performed when moving to a non-equivalent PLMN as specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

The test case is covered in TS 34.123-1 [38] clause 12.2.1.1a. Refer to CR #0224 for details.

- 12.3.2 Void
- 12.3.3 Void
- 12.3.4 Void
- 12.3.5 Void

12.4 EF_{NASCONFIG} – Verifying Minimum Periodic Search Timer

12.4.1 Definition and applicability

The MinimumPeriodicSearchTimer leaf gives a minimum value in minutes for the timer T controlling the periodic search for higher prioritized PLMNs as specified in 3GPP TS 23.122 [31].

If the MS is configured for Fast First Higher Priority PLMN search and the MinimumPeriodicSearchTimer is configured as specified in 3GPP TS 24.368 [36] or 3GPP TS 31.102 [4], the MS shall not use a value for T that is less than the MinimumPeriodicSearchTimer.

The test case is covered in TS 34.123-1 [38] clauses 9.4.5.4 and 9.4.5.4.7. Refer to CR #0228 for details.

- 12.4.2 Void
- 12.4.3 Void
- 12.4.4 Void
- 12.4.5 Void

12.5 EFNASCONFIG – Extended access barring handling

12.5.1 Definition and applicability

Extended Access Barring (EAB) is a mechanism to control Mobile Originating access attempts from UEs that are configures for EAB in order to prevent overload for the access network and/or the core network. In congestion situations, the operator can restrict access from UEs configured for EAB while permitting access from other UEs.

The ExtendedAccessBarring leaf indicates whether the extended access barring is applicable for the UE as specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

The test case is covered in TS 34.123-1 [38] clauses 8.1.1.20, 9.4.11, 12.2.1.16 and 12.4.1.9. Refer to CR #0226 for details.

- 12.5.2 Void
- 12.5.3 Void
- 12.5.4 Void
- 12.5.5 Void

12.6 EF_{NASCONFIG} – Verifying Timer T3245 Behaviour

12.6.1 Definition and applicability

For an MS that is configured to use timer T3245 (see 3GPP TS 24.368 [36] or 3GPP TS 31.102 [4]) and when the MS adds a PLMN identity to the "forbidden PLMN list" or the "forbidden PLMNs for GPRS service" list or sets the SIM/USIM as invalid for non-GPRS services or GPRS services or both, and timer T3245 is not running, the MS shall start timer T3245 with a random value, uniformly drawn from the range between 24h and 48h.

Upon expiry of the timer T3245, the MS shall erase the "forbidden PLMN list" and the "forbidden PLMNs for GPRS service" list and set the SIM/USIM to valid for non-GPRS services and GPRS services.

12.6.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply the setting present in $EF_{NASCONFIG}$ for "Timer T3245 Behaviour".

Reference:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.7.
- TS 24.008 [16], clause 4.1.1.6

12.6.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS.
- 3) To verify that the UE erase the "forbidden PLMN list" and the "forbidden PLMNs for GPRS service" list upon expiry of the timer T3245.

12.6.4 Method of test

12.6.4.1 Initial conditions

- a) The USS transmits on the BCCH, with the following network parameters:
 - Attach/detach: disabled.
 - LAI (MCC/MNC/LAC): 234/005/0001.
 - RAI (MCC/MNC/LAC/RAC): 234/005/0001/05
 - Access control: unrestricted.

The default Non Access Stratum Configuration UICC is installed into the Terminal with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty

PLMN2: empty PLMN3: empty PLMN4: empty PLMN5: empty PLMN6: empty

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF									

Coding:	B13	B14	B15	B16	B17	B18			
Hex	FF	FF	FF	FF	FF	FF			

EFNASCONFIG (Non Access Stratum Configuration):

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used)

NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not

Attach with IMSI value: attach with IMSI is performed when moving to a non-

equivalent PLMN

Minimum Periodic Search Timer value:

Extended access barring value: extended access barring is not applied for the UE

Timer T3245 Behaviour value: T3245 is used

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	00	81	00	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18				
Hex	00	84	01	00	85	01	01				

12.6.4.2 **Procedure**

- The UE is powered on. a)
- Depending on which domain the UE is going to be registered on, the UE attempts to perform CS, PS or CS/PS registration to the USS.
- after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration with the cause "PLMN not allowed" the Terminal shall update the EF FPLMN in the USIM. T3245 will start.
- After the expiry of timer T3245, the terminal shall establish the RRC connection again.
- Depending on which domain the UE is going to be registered on, the UE performs CS, PS or CS/PS registration to the USS.
- The UE is powered down

12.6.5 Acceptance criteria

- After power on in step a) the UE shall reads EF_{NASCONFIG}
- The UE shall update EF_{FPLMN} in step c) as following:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: 234 005 (MCC MNC)

PLMN2: empty PLMN3: empty PLMN4: empty PLMN5: empty PLMN6: empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	54	00	FF	FF	FF						

Coding:	B13	B14	B15	B16	B17	B18			
Hex	FF	FF	FF	FF	FF	FF			

c) The UE shall update EF_{FPLMN} in step e) as following:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty

PLMN2: empty PLMN3: empty PLMN4: empty PLMN5: empty PLMN6: empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF									

Coding:	B13	B14	B15	B16	B17	B18			
Hex	FF	FF	FF	FF	FF	FF			

12.7EF_{NASCONFIG} – Override NAS signalling low priority

12.7.1 Definition and applicability

The "Override NAS signalling low priority" indicates whether the UE can override the NAS Signalling Priority configuration in the NAS message as specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

12.7.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply correctly the setting present in EF_{NASCONFIG} for "Override NAS signalling low priority" to connect to the network.

References:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.9.
- TS 24.008 [16], clause 1.8, 6.1.3.1.3.2, 6.1.3.12, 4.7.13.5
- TS 23.060 [25], clause 5.3.13.6.

12.7.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS.

12.7.4 Method of test

12.7.4.1 Initial conditions

a) The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

b) The default Non Access Stratum Configuration UICC is installed into the Terminal with the following exception:

EF_{NASCONFIG} (Non Access Stratum Configuration)

Logically:

NAS signalling priority value: NAS signalling low priority

NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE can override the NAS signalling low priority

indicator

Override Extended access barring: Indicates that the UE can override extended access barring

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	01	81	01	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
Hex	00	84	01	01	85	01	00	86	01	01	87
Coding:	B23	B24									
Hex	01	01									

12.7.4.2 Procedure

- a) The UE is powered on where the UICC is configured as defined in b) in the initial conditions.
- b) The user requests activation of a PDP context. After receipt of *ACTIVATE PDP CONTEXT REQUEST* from the UE, the USS sends *ACTIVATE PDP CONTEXT REJECT* to the UE indicating:

- SM cause value # 26: insufficient resources;

- Back-off timer T3396: 1 minute

- c) Before timer T3396 expires, the users request activation of a PDP context, the UE sends *ACTIVATE PDP CONTEXT REQUEST*, the USS sends *ACTIVATE PDP CONTEXT ACCEPT* to the UE.
- d) The UE is powered down.

12.7.5 Acceptance criteria

- a) After power on in step a) the UE shall read EF_{NASCONFIG}
- b) In step b) the UE shall set in *ACTIVATE PDP CONTEXT REQUEST* message the low priority indicator to "MS is configured for NAS signalling low priority" in the device properties.
- c) In step c) the UE shall send *ACTIVATE PDP CONTEXT REQUEST* message where the low priority indicator is set to "MS is not configured for NAS signalling low priority" in the device properties.

12.8EF_{NASCONFIG} – Override Extended access barring

12.8.1 Definition and applicability

The "Override Extended Access Barring" indicates whether the UE can override "Extended Access Barring" configured to extended access barring.

The handling of extended access barring for the UE when the Override Extended Access Barring is used is specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

12.8.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply correctly the setting present in $EF_{NASCONFIG}$ for "Override Extended Access Barring" to connect to the network.

References:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.10.
- TS 23.060 [25], clause 5.3.13.6.
- TS 23.401 [37], clause 4.3.17.2, 4.3.17.4
- TS 22.011 [6], clause 4.3.4.1.

12.8.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS.
- 3) To verify that the UE overrides "Extended Access Barring" when the Override Extended Access Barring is used

12.8.4 Method of test

12.8.4.1 Initial conditions

- a) The USS transmits on the BCCH, with the following network parameters:
 - Attach/detach: disabled.
 - LAI (MCC/MNC/LAC): 246/081/0001.
 - RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.
 - Access control: unrestricted.
 - SYSTEM INFORMATION BLOCK TYPE 21:

EAB Authorization Mask: 0010000000 (Mobile stations configured for EAB and a member of

Access Class 7 are barred)

EAB Subcategory (2 bit): 00 (The EAB Authorization mask is applicable to all mobile stations

configured for EAB.)

b) The default Non Access Stratum Configuration UICC is installed into the Terminal with the following exception: **EF**_{NASCONFIG} (**Non Access Stratum Configuration**)

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used)

NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE can override the NAS signalling low priority

indicator

Override Extended access barring: Indicates that the UE can override extended access barring

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	00	81	01	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
Hex	00	84	01	01	85	01	00	86	01	01	87
Coding:	B23	B24									
Hex	01	01									

12.8.4.2 Procedure

- a) The UE shall be powered on where the UICC is configured as defined in b) in the initial conditions and the USS transmits of the BCCH as defined inside the initial conditions.
- b) User request activate a PDP context. The UE sends *ACTIVATE PDP CONTEXT REQUEST*, the USS sends *ACTIVATE PDP CONTEXT ACCEPT* to the UE.
- c) The UE is powered down

12.8.5 Acceptance criteria

- a) After power on in step a) the UE shall reads EF_{NASCONFIG}
- b) In step b) the UE shall send ACTIVATE PDP CONTEXT REQUEST message to the USS.

12.9EF_{NASCONFIG} – Fast First Higher Priority PLMN Search

12.9.1 Definition and applicability

The "Fast First Higher Priority PLMN Search" indicates whether the UE performs the first search for a higher priority PLMN after at least 2 minutes and at most T minutes upon entering a VPLMN as specified in 3GPP TS 23.122 [31].

12.9.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply correctly the setting present in $EF_{NASCONFIG}$ for "Fast First Higher Priority PLMN Search" to connect to the network.

References:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.10a.
- TS 23.122 [31], clause 4.4.3.3.1

12.9.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS.
- 3) To verify that the UE performs first search for higher priority PLMN according to "Fast First Higher Priority PLMN Search" configuration when this parameter is present and used.

12.9.4 Method of test

12.9.4.1 Initial conditions

a) The USS transmits on BCCH, with the following network parameters:

Attach/detach: disabled.

LAI (MCC/MNC/LAC): 244/009/0001.

RAI (MCC/MNC/LAC/RAC): 244/009/0001/05

- Access control: unrestricted.

b) After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

RAI (MCC/MNC/LAC/RAC): 244/081/0001/05

Access control: unrestricted.

c) The default Non Access Stratum Configuration UICC is installed into the Terminal with the following exception:

EFHPPLMN (Higher Priority PLMN Search period)

Logically: set to 6 minutes

Coding:	B1
Hex	01

EFNASCONFIG (Non Access Stratum Configuration)

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used) NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is not applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE cannot override the NAS signalling low

priority indicator

Override Extended access barring: Indicates that the UE cannot override extended access barring Fast First Higher Priority PLMN Search: Indicates that the Fast First Higher Priority PLMN Search is

enabled

EUTRA Disabling Allowed For EMM Cause 15: disabled

SM RetryWaitTime: E0

SM RetryAtRATChange: UE is allowed to retry the corresponding ESM procedure in S1 mode if an SM

procedure was rejected in A/Gb or Iu mode, and to retry the corresponding SM procedure in A/Gb or Iu mode if an ESM

procedure was rejected in S1 mode.

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	00	81	01	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
Hex	00	84	01	00	85	01	00	86	01	00	87
Coding:	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33
Hex	01	00	88	01	01	89	01	00	8A	01	E0
Coding:	B34	B35	B36								
Hex	8B	01	00								

12.9.4.2 Procedure

- a) The UE shall be powered on where the UICC is configured as defined in b) in the initial conditions and the USS starts to transmit on the first BCCH with the MMC/MNC 246/009.
- b) Depending on which domain the UE is going to be registered on, the UE performs CS, PS or CS/PS registration to the USS.
- c) The USS starts to send on the second BCCH with the MCC/MNC 244/081.
- d) Depending on which domain the UE is going to be registered on, the UE performs CS, PS or CS/PS registration to the USS on the cell related to the BCCH transmitting MCC/MNC 244/081.
- e) The UE is powered down.

12.9.5 Acceptance criteria

- a) After power on in step a) the UE shall read EF_{NASCONFIG}
- b) The UE shall perform step d) after 2 6 minutes.

12.10 EFNASCONFIG – E-UTRA Disabling Allowed for EMM cause #15

12.10.1 Definition and applicability

The "EUTRA Disabling Allowed For EMM Cause #15" indicates whether the UE is allowed to disable the E-UTRA capability when it receives the Extended EMM cause IE with value "E-UTRAN not allowed" as described in 3GPP TS 24.301 [26].

12.10.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply the setting present in $EF_{NASCONFIG}$ for "EUTRA Disabling Allowed For EMM Cause #15" to connect to the network.

References:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.10b.
- TS 24.301 [26], clause 4.5, 5.5.1.2.5

12.10.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS
- 3) To verify that the UE shall disable the E-UTRA capability and search for a suitable cell in GERAN or UTRAN radio access technology upon ATTACH REJECT reception that include both EMM cause #15 "no suitable cells in tracking area" and an Extended EMM cause IE with value "E-UTRAN not allowed" if "EUTRA Disabling Allowed For EMM Cause #15" is present and enabled in the UE.

12.10.4 Method of test

12.10.4.1 Initial conditions

a) For this test both a UTRAN USS and an E-UTRAN E-USS is needed.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/003/0001.

- Access control: unrestricted.

At step c) the E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/003/0002.

- Access control: unrestricted.

At step c) the USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/003/0003.

- Access control: unrestricted.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

b) The default Non Access Stratum Configuration of E-UTRAN/EPC UICC is installed into the Terminal with the following exception:

EF_{NASCONFIG} (Non Access Stratum Configuration)

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used) NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is not applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE cannot override the NAS signalling low

priority indicator

Override Extended access barring: Indicates that the UE cannot override extended access barring Fast First Higher Priority PLMN Search: Indicates that the Fast First Higher Priority PLMN Search is

enabled

EUTRA Disabling Allowed For EMM

Cause15: enabled

SM RetryWaitTime: E0

SM_RetryAtRATChange: UE is allowed to retry the corresponding ESM procedure in S1 mode if an SM

procedure was rejected in A/Gb or Iu mode, and to retry the corresponding SM procedure in A/Gb or Iu mode if an ESM

procedure was rejected in S1 mode.

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	00	81	01	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
Hex	00	84	01	00	85	01	00	86	01	00	87
Coding:	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33
Hex	01	00	88	01	00	89	01	01	8A	01	E0
Coding:	B34	B35	B36								
Hex	8B	01	00								

12.10.4.2 Procedure

- a) The UE shall be powered on where the UICC is configured as defined in b) in the initial conditions and the E-USS starts to send only on the BCCH with the MCC/MNC 244/003.
- b) After receipt of AttachRequest from the UE, the E-USS sends Attach Reject message with:
 - EMM cause set to #15:"No suitable cells in tracking area",
 - Extended EMM cause IE: "E-UTRAN not allowed"
- c) The E-USS starts to send on the BCCH with MCC/MNC 244/003 and the USS starts to send on the BCCH with MCC/MNC 244/003.

- d) After receipt of an *RRCConnectionRequest* from the UE, the USS sends *RRCConnectionSetup* to the UE, followed by *RRCConnectionSetupComplete* sent by the UE to the USS.
- e) The UE is powered down.

12.10.5 Acceptance criteria

- a) After power on in step a) the UE shall read EF_{NASCONFIG}
- b) In step d) the UE shall send a *RRCConnectionRequest* on the UTRAN-cell related to the BCCH transmitting MCC/MNC 244/003 to the USS.

12.11 EFNASCONFIG – SM_RetryWaitTime

12.11.1 Definition and applicability

The "SM_RetryWaitTime" indicates a configured UE retry wait time value applicable when in HPLMN or EHPLMN (see 3GPP TS 23.122 [31]) for controlling the UE session management retry behaviour when prior session management request was rejected by the network with cause value #8, #27, #32, #33 as specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

SM_RetryWaitTime shall be coded in the same format as the value part of GPRS Timer 3 IE as specified in Table 10.5.163a/3GPP TS 24.008 [16] converted into a decimal value.

12.11.2 Conformance requirement

For NAS configuration parameter by USIM, the UE shall check and apply the setting present in $EF_{NASCONFIG}$ for "SM_RetryWaitTime" to connect to the network.

Reference:

- TS 31.102 [4], clauses 4.2.94, 5.2.29
- TS 24.368 [36], clause 5.10c.
- TS 24.008 [16], clauses 6.1.3.1.3.3, 10.5.7.4a.

12.11.3 Test purpose

- 1) To verify that the UE reads the NAS configuration stored on the USIM.
- 2) To verify that the UE applies the USIM stored NAS configuration correctly to connect to the USS.
- 3) To verify that the UE behaves as described in TS 24.008 [16] clause 6.1.3.1.3.3, using the default value of 12 minutes for the back-off timer when the SM Retry Timer value is not configured.
- 4) To verify that the UE behaves as described in TS 24.008 [16] clause 6.1.3.1.3.3, using the configured SM Retry Timer value as back-off timer value.

12.11.4 Method of test

12.11.4.1 Initial conditions

- a) The USS transmits on BCCH, with the following network parameters:
 - Attach/detach: disabled.
 - LAI (MCC/MNC/LAC): 246/081/0001.
 - RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.
 - Access control: unrestricted.

b) The default Non Access Stratum Configuration UICC is installed into the Terminal with the following exception:

EFNASCONFIG (Non Access Stratum Configuration)

Logically:

NAS signalling priority value: Reserved (NAS signalling low priority is not used)
NMO I Behaviour value: "NMO I, Network Mode of Operation I" indication is not used

Attach with IMSI value: normal behaviour is applied

Minimum Periodic Search Timer value: 00

Extended access barring value: extended access barring is not applied for the UE

Timer T3245 Behaviour value: T3245 not used

Override NAS signalling low priority: Indicates that the UE cannot override the NAS signalling low

priority indicator

Override Extended access barring: Indicates that the UE cannot override extended access barring
Fast First Higher Priority PLMN Search: Indicates that the Fast First Higher Priority PLMN Search is not

enabled

EUTRA Disabling Allowed For EMM

Cause 15: disabled

SM_RetryWaitTime: 60 seconds

procedure was rejected in A/Gb or Iu mode, and to retry the corresponding SM procedure in A/Gb or Iu mode if an ESM

procedure was rejected in S1 mode.

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	80	01	00	81	01	00	82	01	00	83	01
Coding:	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
Hex	00	84	01	00	85	01	00	86	01	00	87
Coding:	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33
Hex	01	00	88	01	00	89	01	00	8A	01	7E
Coding:	B34	B35	B36								
Hex	8B	01	00								

12.11.4.2 Procedure

- a) The UE is powered on where the UICC is configured as defined in b) in the initial conditions.
- b) User request activate a PDP context. After receipt of *ACTIVATE PDP CONTEXT REQUEST* from the UE, the USS sends *ACTIVATE PDP CONTEXT REJECT* to the UE indicating:
 - SM cause value #8: operator determined barring;
- c) User request activate a PDP context and the UE sends *ACTIVATE PDP CONTEXT REQUEST*, the USS sends *ACTIVATE PDP CONTEXT ACCEPT* to the UE.
- d) The UE is powered down.

12.11.5 Acceptance criteria

- a) After power on in step a) the UE shall read EF_{NASCONFIG}
- b) In step c) the UE shall send *ACTIVATE PDP CONTEXT REQUEST* message after the SM_RetryWaitTime of 1 minute has expired.

12.12 EF_{NASCONFIG} - SM_RetryAtRATChange

12.12.1 Definition and applicability

The "SM_RetryAtRATChange" indicates the UE's retry behaviour when in HPLMN or EHPLMN (see 3GPP TS 23.122 [31]) after inter-system change between S1 mode and A/Gb or Iu mode as specified in 3GPP TS 24.008 [16] and 3GPP TS 24.301 [26].

12.12.2 Conformance requirement

Editor's note: this clause is for future study.

12.12.3 Test purpose

Editor's note: this clause is for future study.

12.12.4 Method of test

Editor's note: this clause is for future study.

12.12.5 Acceptance criteria

Editor's note: this clause is for future study.

13 UICC interface during PSM

13.1 UICC interface in PSM handling for E-UTRAN – No UICC deactivation in PSM

13.1.1 Definition and applicability

PSM is intended for UEs that are expecting only infrequent mobile originating and terminating services and that can accept a corresponding latency in the mobile terminating communication. In order to reduce power consumption while in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC after entering the PSM.

13.1.2 Conformance requirement

In order to reduce power consumption while the ME is in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) after entering the PSM.

Reference:

- TS 31.102 [4], clause 5.1.10;
- TS 24.301 [26], clauses 5.3.5 and 5.3.11.
- TS 31.101 [39], clause 6A.1.

13.1.3 Test purpose

1) To verify that UE does not deactivate the UICC in case the PIN for the USIM is enabled and verified.

13.1.4 Method of test

13.1.4.1 Initial conditions

The UE is configured to use Power Saving Mode.

The UE is configured to use the timer T3324 set to T3324_V.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UMPC} (UICC Maximum Power Consumption)

Logically:

UICC maximum power consumption: 60 mA Operator defined time out (T_OP): 5 seconds

Additional information: UICC does not require increased idle current

UICC does not support the UICC suspension procedure

Byte 4 and byte 5: RFU

Byte: B1 B2 B3 B4 B5 Coding: 3C 05 00 00 00

The PIN of the USIM is enabled and verified

13.1.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including T3324 set to T3324_V.
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message contains T3324 set to T3324_V and T3412 set to T3412_V.. It shall not contain the eDRX parameters
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) After the T3412 timer expires the UE sends TRACKING AREA UPDATE REQUEST
- f) The E-USS/NB-SS sends TRACKING AREA UPDATE ACCEPT.
- g) The UE is switched off.

13.1.5 Acceptance criteria

1) After step c) the UE shall not deactivate the UICC or send SUSPEND UICC command.

13.2 UICC interface in PSM handling for E-UTRAN – PSM not accepted by E-USS/NB-SS

13.2.1 Definition and applicability

PSM is intended for UEs that are expecting only infrequent mobile originating and terminating services and that can accept a corresponding latency in the mobile terminating communication. In order to reduce power consumption while in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC after entering the PSM.

13.2.2 Conformance requirement

In order to reduce power consumption while the ME is in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) after entering the PSM.

Reference:

- TS 31.102 [4], clause 5.1.10;
- TS 24.301 [26], clauses 5.3.5 and 5.3.11.
- TS 31.101 [39] in clause 6A.1.

13.2.3 Test purpose

1) To verify that UE does not deactivate the UICC in case the network is not supporting/accepting PSM.

13.2.4 Method of test

13.2.4.1 Initial conditions

The UE is configured to use Power Saving Mode.

The UE is configured to use the timer T3324 set to T3324 V.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal.

The PIN of the USIM is disabled.

13.2.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including T3324 set to T3324_V.
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message contains a T3324 set to "deactivated". It shall not contain the eDRX parameters.
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE
- e) After the time period T3324_V has passed, the E-USS/NB-SS transmits *Paging/Paging-NB* to the UE using the S-TMSI.
- f) After receipt of *RRCConnectionRequest/RRCConnectionRequest-NB* message from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* message to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB* sent by the UE to the E-USS/NB-SS.
- g) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.

h) The UE is switched off.

13.2.5 Acceptance criteria

1) After step c) the UE shall not deactivate the UICC.

13.3 UICC interface in PSM handling for E-UTRAN – UICC deactivation in PSM

13.3.1 Definition and applicability

PSM is intended for UEs that are expecting only infrequent mobile originating and terminating services and that can accept a corresponding latency in the mobile terminating communication. In order to reduce power consumption while in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC after entering the PSM.

445

13.3.2 Conformance requirement

In order to reduce power consumption while the ME is in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) after entering the PSM.

In this case, the ME shall perform these steps before it can leave the PSM:

- re-activate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]),
- re-initialize the USIM (as specified in clause 5.1.1 [4]), with the exception of re-reading EFs that are not required for the verification of the USIM,
- take appropriate steps to verify that the same USIM is used.

Verification shall include at least the check of the content of the following EFs: EF_{ICCID}, EF_{IMSI} and EF_{LOCI}, and/or EF_{PSLOCI} and/or EF_{EPSLOCI} (depending on which of these specific EFs containing LOCI the ME used prior to entering PSM)

Reference:

- TS 31.102 [4], clause 5.1.10;
- TS 24.301 [26], clauses 5.3.5 and 5.3.11.
- TS 31.101 [39] in clause 6A.1.

13.3.3 Test purpose

- 1) To verify that when the UE enters PSM it deactivates the UICC in case the PIN for the USIM is disabled.
- 2) To verify that UE when it leaves the PSM performs the following steps:
 - re-activates the UICC:
 - re-initializes the USIM;
 - verifies the following EFs: EF_{ICCID}, EF_{IMSI}, and EF_{EPSLOCI}.

13.3.4 Method of test

13.3.4.1 Initial conditions

The UE is configured to use Power Saving Mode.

The UE is configured to use the timer T3324 set to T3324_V.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal.

The PIN of the USIM is disabled.

13.3.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including T3324 set to T3324_V.
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message contains T3324 set to T3324_V and T3412 set to T3412_V. It shall not contain the eDRX parameters.
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) After the T3412 timer expires the UE sends TRACKING AREA UPDATE REQUEST.
- f) The E-USS/NB-SS sends TRACKING AREA UPDATE ACCEPT.
- g) The UE is switched off.

13.3.5 Acceptance criteria

- 1) After step d) and the expiration of T3324 timer, the UE deactivates the UICC.
- 2) After step e) the UE leaves the PSM and re-activates the UICC, re-initializes the USIM and verifies the following EFs: EF_{ICCID} , EF_{IMSI} and $EF_{EPSLOCI}$.

13.4 UICC interface in PSM for E-UTRAN – SUSPEND UICC

13.4.1 Definition and applicability

PSM is intended for UEs that are expecting only infrequent mobile originating and terminating services and that can accept a corresponding latency in the mobile terminating communication. 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.

13.4.2 Conformance requirement

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.

Reference:

- TS 31.102 [4], clause 5.1.10;
- TS 24.301 [26], clauses 5.3.5, 5.3.11 and 5.5.1.2.2.

447

- TS 31.101 [39] in clause 11.1.22.

13.4.3 Test purpose

- 1) To verify that UE does not send SUSPEND UICC command to the UICC in case the UICC does not indicates the support of SUSPEND UICC command in EF_{UMPC}
- 2) To verify that UE sends SUSPEND UICC command to the UICC in case the UICC indicates the support of SUSPEND UICC command in EF_{UMPC} after entering the PSM
- 3) To verify that UE resumes the UICC before it can leave the PSM.

13.4.4 Method of test

13.4.4.1 Initial conditions

The UE is configured to use Power Saving Mode.

The UE is configured to use the timer T3324 set to T3324_V.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UMPC} (UICC Maximum Power Consumption)

Logically:

UICC maximum power consumption: 60 mA Operator defined time out (T_OP): 5 seconds

Additional information: UICC does not require increased idle current

UICC supports the UICC suspension procedure

Byte 4 and byte 5: RFU

Byte: B1 B2 B3 B4 B5 Coding: 3C 05 02 00 00

The PIN of the USIM is enabled and verified.

13.4.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including T3324 set to T3324_V.
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message contains T3324 set to T3324_V and T3412 set to T3412_V. It shall not contain the eDRX parameters.
- d) The UE sends SUSPEND UICC command to the UICC indicating "Minimum duration of the suspension proposed by the terminal" and the "Maximum duration of the suspension proposed by the terminal". e) The

UICC returns Maximum duration of the "suspension negotiated by the UICC" = "Minimum duration of the suspension proposed by the terminal", Resume token and SW 9000.

- f) After the T3412 timer expires the UE sends TRACKING AREA UPDATE REQUEST
- g) The E-USS/NB-SS sends TRACKING AREA UPDATE ACCEPT.
- h) The UE is switched off.

13.4.5 Acceptance criteria

- 1) After step d) the UE deactivates the UICC as specified in 3GPP TS 31.101 [39].
- 2) After step f) the UE leaves the PSM and resumes the UICC.

14 UICC interface during eDRX

14.1 UICC interface during eDRX for E-UTRAN – eDRX is not supported by the UICC

14.1.1 Definition and applicability

In order to reduce power consumption when the UE uses extended idle mode DRX cycle, the UE may optionally deactivate the UICC during the extended idle mode DRX cycle.

14.1.2 Conformance requirement

In case the UICC does not support the UICC suspension mechanism, the PIN of the USIM is disabled and deactivation of UICC is authorized in EF_{AD} , the UE may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) during the extended idle mode DRX cycle.

Reference:

- TS 31.102 [4], clause 5.1.11;
- TS 24.301 [26], clauses 5.3.12.
- TS 23.401 [37], clause 5.13a.
- TS 31.101 [39] in clause 6A.1.

14.1.3 Test purpose

1) To verify that UE does not deactivate the UICC in case the ME is not authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle in EF_{AD} in USIM.

14.1.4 Method of test

14.1.4.1 Initial conditions

The UE is configured to request the use of eDRX (in the ATTACH REQUEST and TRACKING AREA UPDATE messages).

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.
- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UMPC} (UICC Maximum Power Consumption)

Logically:

UICC maximum power consumption: 60 mA Operator defined time out (T_OP): 5 seconds

Additional information: UICC does not require increased idle current

UICC does not support the UICC suspension procedure

Byte 4 and byte 5: RFU

Byte: B1 B2 B3 B4 B5 Coding: 3C 05 00 00 00

The PIN of the USIM is enabled and verified.

14.1.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including eDRX parameters.
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message containing eDRX set to eDRX_V and PTW set to PTW_V. If ATTACH REQUEST in step b) above also contains T3324, the ATTACH ACCEPT message shall contain T3324 set to "deactivated". If ATTACH REQUEST in step b) does not contain T3324, the ATTACH ACCEPT message shall not contain T3324.
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) The E-USS/NB-SS transmits *Paging/Paging-NB* to the UE using the S-TMSI in a valid paging occasion within the PTW of the paging Hyperframes as per Idle eDRX.
- f) After receipt of RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- g) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease*-NB to the UE.
- h) The UE is switched off.

14.1.5 Acceptance criteria

1) After step d) the UE shall not deactivate the UICC or send SUSPEND UICC command.

14.2 UICC interface during eDRX for E-UTRAN – eDRX is not accepted by E-USS/NB-SS

14.2.1 Definition and applicability

In order to reduce power consumption when the UE uses extended idle mode DRX cycle, the UE may optionally deactivate the UICC during the extended idle mode DRX cycle.

14.2.2 Conformance requirement

In case the UICC does not support the UICC suspension mechanism, the PIN of the USIM is disabled and deactivation of UICC is authorized in EF_{AD}, the UE may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) during the extended idle mode DRX cycle.

Reference:

- 3GPP TS 31.102 [4], clause 5.1.11;
- TS 24.301 [26], clauses 5.3.12.
- TS 23.401 [37], clause 5.13a
- 3GPP TS 31.101 [39] in clause 6A.1.

14.2.3 Test purpose

1) To verify that UE does not deactivate the UICC in case extended DRX cycle is not supported by the network.

14.2.4 Method of test

14.2.4.1 Initial conditions

The UE is configured to request the use of eDRX (in the ATTACH REQUEST and TRACKING AREA UPDATE messages).

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal with following exception:

EF_{AD} (Administrative Data)

Logically: the ME is authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle.

Byte: B1 B2 B3 Coding: 00 00 08

The PIN of the USIM is disabled.

14.2.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including eDRX parameters:
- c) The E-USS/NB-SS sends the ATTACH ACCEPT message where the eDRX parameters are not present. If ATTACH REQUEST in step b) above also contains T3324, the ATTACH ACCEPT message shall contain T3324 set to "deactivated". If ATTACH REQUEST in step b) does not contain T3324, the ATTACH ACCEPT message shall not contain T3324.

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) E-USS/NB-SS transmits Paging/Paging-NB to the UE in a valid paging occasion as per normal DRX
- f) After receipt of RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- g) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease*-NB to the UE
- h) The UE is switched off.

14.2.5 Acceptance criteria

1) After step d) the UE shall not deactivate the UICC.

14.3 UICC interface during eDRX for E-UTRAN – UICC deactivation during eDRX

14.3.1 Definition and applicability

In order to reduce power consumption when the UE uses extended idle mode DRX cycle, the UE may optionally deactivate the UICC during the extended idle mode DRX cycle.

In this case, the UE shall re-activate the UICC, re-initialize the USIM and take appropriate steps to verify that the same USIM is used, before the end of the extended idle mode DRX cycle or before any other transmission to the network

14.3.2 Conformance requirement

In case the UICC does not support the UICC suspension mechanism, the PIN of the USIM is disabled and deactivation of UICC is authorized in EF_{AD} , the UE may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) during the extended idle mode DRX cycle.

In this case, the UE shall re-activate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]), re-initialize the USIM (as specified in clause 5.1.1 from [4]) and take appropriate steps to verify that the same USIM is used, before the end of the extended idle mode DRX cycle or before any other transmission to the network.

Verification shall include at least the check of the content of the following EFs: EF_{ICCID} , EF_{IMSI} and EF_{LOCI} , and/or EF_{PSLOCI} and/or $EF_{EPSLOCI}$ (depending on which of these specific EFs containing LOCI the ME used prior to entering PSM).

Reference:

- 3GPP TS 31.102 [4], clause 5.1.11;
- TS 24.301 [26], clauses 5.3.12.
- TS 23.401 [37], clause 5.13a
- 3GPP TS 31.101 [39] in clause 6A.1.

14.3.3 Test purpose

- 1) To verify that UE does not deactivate the UICC in case the ME is not authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle in EF_{AD} in USIM.
- 2) To verifies that UE when it leaves the PSM performs the following steps:
 - re-activates the UICC.
 - re-initializes the USIM
 - verifies the following EFs: EF_{ICCID}, EF_{IMSI} and EF_{EPSLOCI}.

14.3.4 Method of test

14.3.4.1 Initial conditions

The UE is configured to request the use of eDRX (in the ATTACH REQUEST and TRACKING AREA UPDATE messages).

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal with following exception:

EFAD (Administrative Data)

Logically: the ME is authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle.

Byte: B1 B2 B3 Coding: 00 00 08

The PIN of the USIM is disabled.

14.3.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including eDRX parameters:
- c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message containing eDRX set to eDRX_V and PTW set to PTW_V. If ATTACH REQUEST in step b) above also contains T3324, the ATTACH ACCEPT message shall contain T3324 set to "deactivated". If ATTACH REQUEST in step b) does not contain T3324, the ATTACH ACCEPT message shall not contain T3324.
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) The E-USS/NB-SS transmits *Paging/Paging-NB* to the UE using the S-TMSI in a valid paging occasion within the PTW of the paging Hyperframes as per Idle eDRX.

- f) After receipt of a RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- g) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.
- h) The UE is switched off.

14.3.5 Acceptance criteria

- 1) After step d) the UE the UE deactivates the UICC.
- 2) After step e) the UE shall re-activate the UICC, re-initialize the USIM and verify the following EFs: EF_{ICCID} , EF_{IMSI} and $EF_{EPSLOCI}$

14.4 UICC interface during eDRX for E-UTRAN- SUSPEND UICC

14.4.1 Definition and applicability

In order to reduce power consumption when the UE uses extended idle mode DRX cycle, as defined in 3GPP TS 24.301 [26], 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.

14.4.2 Conformance requirement

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.

Reference:

- 3GPP TS 31.102 [4], clause 5.1.11;
- TS 24.301 [26], clauses 5.3.12.
- TS 23.401 [37], clause 5.13a.
- 3GPP TS 31.101 [39] in clauses 6A.1 and 11.1.22.

14.4.3 Test purpose

- 1) To verify that UE does not send SUSPEND UICC command to the UICC in case the UICC does not indicates the support of SUSPEND UICC command in EF_{UMPC} during the extended idle mode DRX cycle
- 2) To verify that UE sends SUSPEND UICC command to the UICC in case the UICC indicates the support of SUSPEND UICC command in EF_{UMPC} during the extended idle mode DRX cycle.
- 3) To verify that UE resumes the UICC before the end of the extended idle mode DRX cycle or before any other transmission to the network.

14.4.4 Method of test

14.4.4.1 Initial conditions

The UE is configured to request the use of eDRX (in the ATTACH REQUEST and TRACKING AREA UPDATE messages).

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is used with the following exceptions:

EF_{UMPC} (UICC Maximum Power Consumption)

Logically:

UICC maximum power consumption: 60 mA Operator defined time out (T_OP): 5 seconds

Additional information: UICC does not require increased idle current

UICC supports the UICC suspension procedure

Byte 4 and byte 5: RFU

Byte: B1 B2 B3 B4 B5 Coding: 3C 05 02 00 00

EF_{AD} (Administrative Data)

Logically: the ME is authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle.

Byte: B1 B2 B3 Coding: 00 00 08

The PIN of the USIM is enabled and verified.

14.4.4.2 Procedure

- a) The UE is switched on.
- b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including eDRX parameters:
- c) The E-USS/NB-SS sends the ATTACH ACCEPT message containing eDRX set to eDRX_V and PTW set to PTW_V. If ATTACH REQUEST in step b) above also contains T3324, the ATTACH ACCEPT message shall contain T3324 set to "deactivated". If ATTACH REQUEST in step b) does not contain T3324, the ATTACH ACCEPT message shall not contain T3324.
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.
- e) The UE sends SUSPEND UICC command to the UICC indicating "Minimum duration of the suspension proposed by the terminal" and the "Maximum duration of the suspension proposed by the terminal".
- f) The UICC returns Maximum duration of the "suspension negotiated by the UICC" = "Minimum duration of the suspension proposed by the terminal", Resume token and SW 9000.
- g) The E-USS/NB-SS transmits *Paging/Paging-NB* to the UE using the S-TMSI in a valid paging occasion within the PTW of the paging Hyperframes as per Idle eDRX.

- h) After receipt of RRCConnectionRequest/RRCConnectionRequest-NB message from the UE, the E-USS/NB-SS sends RRCConnectionSetup/RRCConnectionSetup-NB message to the UE, followed by RRCConnectionSetupComplete/RRCConnectionSetupComplete-NB sent by the UE to the E-USS/NB-SS.
- i) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.
- j) The UE is switched off.

14.4.5 Acceptance criteria

- 1) After step f) the UE deactivates the UICC as specified in 3GPP TS 31.101 [39].
- 2) After step g) the UE resumes the UICC.

Annex A (informative): ASN.1 structure for uac-BarringInfo

Following methods are defined to generate the ASN.1 structure for uac-BarringInfo needed for test cases under clause 5.4

Table A-1

Method	UAC_BarringInfo_Common										
Description	Generate an ASN.1 uac-BarringInfo with uac-BarringForCommon structure according to the input parameters										
Doromotor(o)	paramAccessCat, Access category										
Parameter(s)	paramBarringForAI Barring for Access identity										
	Generate the following ASN.1 structure:										
	uac-BarringInfo {										
	uac-BarringForCommon {										
	{										
	accessCategory paramAccessCat,										
	uac-barringInfoSetIndex 1										
	}										
Details	},										
	uac-BarringInfoSetList {										
	{										
	uac-BarringFactor {p00},										
	uac-BarringTime {s512},										
	uac-BarringForAccessIdentity paramBarringForAI										
	}										
	}										
	}										

Table A-2

Method	UAC_BarringInfo_PerPLMN								
Description	Generate an ASN.1 uac-BarringInfo with uac-BarringPerPLMN-List structure according to the input parameters								
Parameter(s)	paramAccessCat, Access category								
raiameter(5)	paramBarringForAl Barring for Access identity								
	Generate the following ASN.1 structure:								
	<pre>uac-BarringInfo {</pre>								
	uac-BarringPerPLMN-List {								
Details	{								
	plmn-IdentityIndex 1,								
	uac-ACBarringListType : uac-ExplicitACBarringList {								
	{								

```
accessCategory paramAccessCat,
        uac-barringInfoSetIndex
  }
},
uac-BarringInfoSetList {
    uac-BarringFactor {p00},
    uac-BarringTime {s512},
     uac-BarringForAccessIdentity
                                    paramBarringForAI
  }
}
```

Table A-3

Method	UAC_BarringInfo_Common2										
Description	Generate an ASN.1 uac-BarringInfo with 2 indexes in uac-BarringForCommon structure according to the input parameters										
	paramAccessCat_1, Access category for index 1										
Davage star(a)	paramBarringForAl_1 Barring for Access identity for index 1										
Parameter(s)	paramAccessCat_2, Access category for index 2										
	paramBarringForAl_2 Barring for Access identity for index 2										
	Generate the following ASN.1 structure:										
	uac-BarringInfo {										
	uac-BarringForCommon {										
	{										
	accessCategory paramAccessCat_1,										
	uac-barringInfoSetIndex 1										
	},										
	{										
	accessCategory paramAccessCat_2,										
Details	uac-barringInfoSetIndex 2										
	}										
	},										
	uac-BarringInfoSetList {										
	{										
	uac-BarringFactor {p00},										
	uac-BarringTime {s512},										
	uac-BarringForAccessIdentity paramBarringForAI_1										
	},										
	{										

uac-BarringFactor {p00},
uac-BarringTime {s512},
uac-BarringForAccessIdentity paramBarringForAI_2
}
}
}

Annex B (informative): Change history

TSG#	TSG TD#	WG TD#	CR	Re v	Cat	Subject/Comment	New
CT-28	CP-050139	C6-050394	068	-	В	Introduction of BCD number/ SSC content extension tests	6.0.0
CT-28	CP-050139	C6-050396	072	-	В	Introduction of ACL tests	6.0.0
CT-28	CP-050139	C6-050436	073	-	В	Introduction of SDN tests	6.0.0
CT-28	CP-050139	C6-050452	074	-	В	Introduction of phonebook selection/ local phonebook handling test	6.0.0
CT-29	CP-050325	C6-050658	080	-	Α	Incorrect PUK2 value used in TC 6.1.6	6.1.0
CT-29	CP-050325	C6-050711	088	-	Α	Incorrect value used for EF SMS in TC 8.2.2	6.1.0
CT-29	CP-050331	C6-050654	076	-	Α	Incorrect MCC value used in TC 7.4.1	6.1.0
CT-29	CP-050336	C6-050706	083	-	F	Clarification of BCD number/ SSC content extension tests	6.1.0
CT-29	CP-050336	C6-050700	081	-	F	Numbering and minor corrections	6.1.0
CT-30	CP-050494	C6-050853	090	-	F	CR to create combined R99 – Rel-6 version	6.2.0
CT-31	CP-060020	C6-060178	095	-	F	Essential correction of TC 7.2.1	6.3.0
CT-31	-	-	-	-	-	Update of Change History by TB Officer	6.3.1
CT-32	CP-060285	C6-060224	0096	-	F	Essential correction of acceptance criteria in 6.1.3.5 and 6.1.4.5	6.4.0
CT-32	CP-060286	C6-060231	0097	-	F	Essential corrections on ACL TC 9.1.1	6.4.0
CT-33	CP-060507	C6-060517	0098	1	F	Essential corrections on Applicability table	6.5.0
CT-34	CP-060543	C6-060792	0099	1	F	Essential corrections to 8.1.2	6.6.0
CT-34	CP-060543	C6-060793	0100	1	F	Essential correction of EF PLMNwACT coding	6.6.0
CT-35	CP-070064	C6-070098	0101	1	F	Essential correction of UICC presence detection test	6.7.0
CT-36	-	-	-	-	-	Update to Rel-7 version (MCC)	7.0.0
CT-37	CP-070617	C6-070368	0103	-	F	Essential correction of Location Area Information parameter in test 7.3	7.1.0
CT-37	CP-070617	C6-070369	0104	-	F	Essential correction of the applicability of tests 6.4.2, 6.4.3, 6.4.4	7.1.0
CT-38	CP-070846	C6-070526	0105	-	F	Essential correction on test case 7.1.2	7.2.0
CT-38	CP-070846	C6-070567	0106	1	С	Introduction of Rel-7 test case applicability	7.2.0
CT-38	CP-070846	C6-070568	0107	1	F	Essential correction of Location Updating Accept/ Attach Accept parameters in 7.1.1	7.2.0
CT-38	CP-070846	C6-070569	0108	1	F	Essential correction of network parameters and acceptance criteria in 7.4.1	7.2.0
CT-38	CP-070846	C6-070581	0109	1	F	Correction of reference to 3GPP TS 23.140	7.2.0
CT-39	CP-080171	C6-080017	0110	-	F	Sequence indication error in 7.1.2.4.2 fixed after wrong implementation of CR 0105	7.3.0
CT-39	CP-080171	C6-080065	0111	1	F	Essential correction to Access Class Barred IE coding in tables 5-1a and 5-1b	7.3.0
CT-40	CP-080387	C6-080103	0112	-	F	Essential correction to network simulator configuration in test 5.2.1	7.4.0
CT-40	CP-080387	C6-080104	0113	-	F	Essential correction to test 7.3.1	7.4.0
CT-40	CP-080387	C6-080167	0114	1	F	Essential correction of the test case applicability for terminals not supporting speech calls	7.4.0
CT-41	CP-080587	C6-080240	0115	-	F	Essential correction of TC 8.4 applicability	7.5.0
CT-42			-	-	-	Upgrade to copyright, keywords and logo for LTE	8.0.0
CT-43	CP-090458	C6-090177	0116	1	В	Definition of LTE™ tests	8.1.0
CT-43	CP-090458	C6-090132	0118	-	В	Definition of clause 7.2, 7.3 and 7.4 LTE™ tests	8.1.0
CT-43	CP-090458	C6-090179	0119	1	F	Clarification of class 2 SMS test	8.1.0
CT-43	CP-090458	C6-090187	0120	2	F	Clarification of PIN MMI string test	8.1.0
CT-45	CP-090717	<u>C6-090234</u>	0121	1	В	Definition of CSG related test cases for E-UTRA	8.2.0
CT-45	CP-090717	<u>C6-090320</u>	0122	1	В	Definition of EPS NAS Security Context cases for E- UTRA/EPC	8.2.0
CT-45	CP-090717	<u>C6-090208</u>	0123		F	Essential correction of test 6.1.12	8.2.0
CT-45	CP-090717	C6-090322	0124	1	F	Correction of tests 7.4.2 and 7.4.4	8.2.0
CT-45 CT-45	CP-090717	<u>C6-090321</u>	0126	1	B F	Definition of CSG related test cases for E-UTRA, Part 2	8.2.0
CT-45	CP-090717 CP-090997	C6-090236 C6-090405	0127 0130		F	Essential corrections on LTE related test cases Correction of EF UST in clause 4.4.1	8.2.0 8.3.0
CT-46	CP-090997 CP-090998	<u>C6-090405</u> <u>C6-090463</u>	0130	1	F	Editorial correction of the naming of	8.3.0
						RRCConnectionRequest	
CT-46	CP-090998	<u>C6-090484</u>	0131	3	F	Definition of the UICC presence detection test when connected to E-UTRAN/EPC	8.3.0
CT-46	CP-090998	<u>C6-090485</u>	0132	3	F	Definition of ACL related test cases for E-UTRA	8.3.0
CT-46	CP-090998	<u>C6-090499</u>	0135		F	Update of CGS list tests	8.3.0
CT-46	- CD 400405		- 0120	-	-	Upgrade of the specification to Rel-9	9.0.0
CT-47 CT-47	CP-100195 CP-100193	C6-100071 C6-100029	0139 0137	-	D F	Editorial modifications about missing clause numbers Introduction of Rel-9 applicability and applicability table	9.1.0 9.1.0
CT-48	CP-100394	<u>C6-100211</u>	0141		F	Corrections Essential correction of Unblock Universal PIN value	9.2.0
L						description in 4.1.1.21	

OT 10	00.400004	00.400050	0440			le er e reserri	0.00
CT-48 CT-48	CP-100394 CP-100394	<u>C6-100256</u>	0140	1	F	Essential correction to applicability table Essential corrections on the initial conditions of E-	9.2.0 9.2.0
C1-46	CP-100394	<u>C6-100278</u>	0143	'	Г	UTRAN related test cases	9.2.0
CT-48	CP-100394	<u>C6-100279</u>	0144		F	Correction of inconsistent terminology for E-UTRAN- related elements	9.2.0
CT-49	CP-100589	<u>C6-100413</u>	0147	1	F	Addition of CSG Type and Home NodeB Name display test	9.3.0
CT-49	CP-100590	<u>C6-100376</u>	0146	1	F	Essential corrections on E-UTRAN / EPC related test cases	9.3.0
CT-49	CP-100592	C6-100392	0145	1	F	Update of references	9.3.0
CT-50	CP-100831	C6-100597	0150	1	F	Correction of incorrect Expected IMSI value in TC 5.1.8	9.4.0
01 00	01 100001	<u>00 100001</u>	0100	l '	'	acceptance criteria	0.4.0
CT-50	CP-100831	<u>C6-100604</u>	0151	1	F	Addition of LTE-related services to EF_UST in LTE test cases	9.4.0
CT-50	CP-100830	<u>C6-100620</u>	0148	1	В	Definition of E-UTRAN/EPC ISIM-UICC for ISIM related testing	9.4.0
CT-51	CP-110264	<u>C6-110196</u>	0153	3	С	Split of test 8.2.1 for independent verification of correct 'Class 2 SM storage on the USIM' and 'SM memory capacity exceeded handling' support	9.5.0
CT-51	CP-110232	C6-110115	0154	7	В	Introduction of ISIM related SMS tests	9.5.0
CT-51	CP-110232	C6-110116	0155	•	В	Introduction of ISIM and USIM related SMS reading test	9.5.0
CT-51	CP-110264	C6-110197	0156	1	F	Essential correction on TC 5.1.10	9.5.0
SP-51						Automatic upgrade from previous version 9.5.0	10.0.0
CT-52	CP-110502	C6-110268	0158	1	F	Removal of tel URI in EF_IMPU of the default	10.1.0
						configuration of a E-UTRAN/EPC ISIM UICC	
CT-52	CP-110502	C6-110256	0159		F	Essential correction of test 11.1 regarding EF EPSNSC updates	10.1.0
CT-53	CP-110718	C6-110372	0161	2	F	Essential correction of tests 11.2 and 11.3	10.2.0
CT-53	CP-110718	C6-110378	0162	1	F	Essential correction of test 5.2.2	10.2.0
						Correction of formatting of table 5-2	10.2.1
CT-54	CP-110903	<u>C6-110543</u>	0163	1	F	Essential correction of the phonebook and MMS tests applicability	10.3.0
CT-54	CP-110903	<u>C6-110583</u>	0164	1	F	Deletion of test 9.1.6 (Access Point Name Control List handling for terminals not supporting ACL connected to E-UTRAN/EPC)	10.3.0
CT-55	CP-120150	C6-120065	0165	1	F	Essential correction of 5.2.2	10.4.0
CT-56	CP-120390	C6-120214	0166		F	Correction of test 6.1.16	10.5.0
CT-56	CP-120390	C6-120264	0168	1	F	Test case applicability modification of test 8.2.3 for terminals with large SMS storage capabilities	10.5.0
CT-56	CP-120391	C6-120228	0167		F	Changes in test sequences for ACL in E-UTRAN	10.5.0
SP-57						Automatic upgrade to Rel-11	11.0.0
CT-58	CP-120874	C6-120594	0172	1	F	Essential correction on TC 11.1	11.1.0
CT-58	CP-120874	C6-120595	0173	1	F	Essential correction on TC 11.2	11.1.0
CT-58	CP-120874	C6-120596	0171	1	F	Essential correction on the applicability for TC 5.2.2	11.1.0
CT-58	CP-120874		0170			Change of ACL test sequence	11.1.0
CT-60	CP-130368	C6-130204	0174	7	В	Introduction of Operator CSG lists and CSG list display control related TCs for E-UTRA and UTRA (Rel-9)	11.2.0
CT-60	CP-130368	C6-130203	0176	2	В	Introduction of Allowed CSG Lists related TCs for UTRA (Rel-8)	11.2.0
CT-62 CT-62	CP-130798 CP-130789	C6-130520 C6-130587	0179 0180	3	F B	Removal of the unused applicability condition C030 Introduction of EPS NAS Security Context Storage test	11.3.0 11.3.0
	CP-130769				F	case Essential correction for Applicability table related to new	
CT-62		C6-130570	0181	1		CSG tests	11.3.0
CT-63 CT-63	CP-140170 CP-140170	C6-140014 C6-140067	0182 0183	1	D F	Clarification of call types to be used inside test case 8.4. Corrections to test case 10.1.2, 10.1.4 and 10.1.5	11.4.0 11.4.0
CT-63	CP-140170	C6-140007	0186	1	F	Corrections to the applicabilities of CSG test cases	11.4.0
CT-63	CP-140170	C6-140100	0184	1	F	Corrections to the applicabilities of CSG test cases Corrections to test case 10.1.8 and 10.2.2	11.4.0
CT-63	CP-140170	C6-140099	0185	1	F	Corrections to test case 10.1.1.6 and 10.2.2 Corrections to test case 10.2.1, 10.2.2 and 10.2.3	11.4.0
CT-65	CP-140706	C6-140424	0187		F	Correction to the text description of default value in EFOPLMNwAcT	11.5.0
CT-65	CP-140706	C6-140431	0190		F	Corrections to the test sequence of TC 6.4.3 and 6.4.4	11.5.0
SP-65						Automatic upgrade to Rel-11	12.0.0
CT-66	CP-140962	C6-140634	0192		F	Default GUTI correction	12.1.0
CT-66	CP-140962	C6-140704	0191	1	F	Removal of TC 9.1.5	12.1.0
CT-66	CP-140962	C6-140732	0188	2	F	Update of references to ETSI TS 102 221 and addition of Rel-12 applicability	12.1.0
CT-67	CP-150161	C6-150030	0194		F	Corrections to test case 7.1.1	12.2.0
CT-67	CP-150160	C6-150032	0196		F	Corrections to test case 7.1.6 and 10.2.3	12.2.0
CT-67	CP-150161	C6-150073	0197	1	F	Corrections to test case 8.2.4	12.2.0
CT-67	CP-150161	C6-150074	0195	1	F	Corrections to test case 7.1.3, 7.2.2, 7.2.3, 7.3.1, 7.3.2, 7.4.1 and 7.4.2	12.2.0

CT-67	CP-150161	C6-150076	0198	2	F	Essential correction on EFEPSNSC (EPS NAS Security	12.2.0
OT 00	OD 450404	00.450000	0194		_	Context) defined for E-UTRAN/EPC UICC	40.0.0
	CP-150161 CP-150564	C6-150030 C6-150480	0194	2	F C	Corrections to test case 7.1.1 Relaxing the mandatory clause and making features	12.3.0 13.0.0
CT-70	CP-150828	<u>C6-150524</u>	0206		С	Optional Essential correction of initial conditions in test case 10.1.5 and 10.1.6.	13.1.0
CT-70	CP-150828	C6-150590	0202	1	В	Addition of Rel-13 column to applicability table	13.1.0
	CP-150828	C6-150600	0202	1	F	Essential corrections on test cases 5.1.1 and 5.1.2	13.1.0
	CP-150828	C6-150601	0208	1	F	Essential corrections on test case 7.2.3	13.1.0
	CP-150828	C6-150602	0205	2	F	Essential corrections to test case 7.2.3	13.1.0
	CP-150828	C6-150611	0203	1	D	Editorial corrections in CSG related test cases	13.1.0
	CP-150828	<u>C6-150612</u>	0204	1	C	Additional check on UE after manual CSG attempt rejected	13.1.0
CT-70	CP-150828	<u>C6-150614</u>	0210		С	Clarification on acceptance criteria on EF-ACSGL in test case 10.1.3.	13.1.0
CT-71	CP-160144	<u>C6-160061</u>	0212	1	F	Essential correction on applicability table for test case execution in GERAN	13.2.0
CT-71	CP-160144	<u>C6-160082</u>	0213	1	F	Essential correction to test case for NAS security context parameter handling	13.2.0
CT-71	CP-160144	<u>C6-160085</u>	0211	1	В	Introduction of new test cases on Non-Access Stratum (NAS) configuration	13.2.0
CT-71	CP-160145	C6-160053	0214	1	С	Making Local Phone Book Optional	13.2.0
	CP-160346	C6-160216	0214		F	Modification of TAC value in the Acceptance criteria of	13.3.0
0172	51 1505-10	<u>50 100210</u>	0210		'	test case 10.1.2	10.0.0
CT-72	CP-160346	C6-160263	0217	1	D	Editorial corrections to test case 12.2	13.3.0
	CP-160346	<u>C6-160264</u>	0218	1	В	Introduction of new test cases on Non-Access Stratum	13.3.0
- · · -	2000.10				_	(NAS) configuration	. 5.5.0
CT-72	CP-160346	C6-160268	0221	1	F	Correction to test cases updating the EF-ACSGL	13.3.0
	CP-160349	C6-160269	0219	1	С	Making phonebook support optional for MEs with	13.3.0
						reduced feature capabilities	
CT-73	CP-160547	<u>C6-160413</u>	0222		В	Introduction of new test cases on Non-Access Stratum (NAS) configuration	13.4.0
CT-73	CP-160547	C6-160376	0223		F	Correction of Acceptance criteria of test case 12.4	13.4.0
-	CP-160791	C6-160528	225		F	Essential correction to test case for E-UTRA Disabling	13.5.0
	c	00 100020				Allowed for EMM cause #15	
CT-74	CP-160791	<u>C6-160535</u>	232		F	Condition for test case for EFNASCONFIG - Override NAS signalling low priority	13.5.0
CT-74	CP-160791	<u>C6-160537</u>	234		F	Applicability of test case for EFNASCONFIG - SM_RetryWaitTime	13.5.0
CT-74	CP-160791	C6-160538	235		F	Condition for Verifying Timer T3245 Behaviour test case	13.5.0
CT-74	CP-160791	C6-160572	237		F	Correction of Applicabilty for test case 9.1.4	13.5.0
CT-74	CP-160791	<u>C6-160592</u>	231	1	F	Condition for test case for EFNASCONFIG - Override Extended Access Barring	13.5.0
CT-75	CP-170231	C6-170081	0236	4	В	Introduction of new test executions for NB-IoT UE implementation	13.6.0
CT-75	CP-170231	C6-170087	0239	1	В	Modification of some E-UTRAN test cases under cl. 7.1/3/4 to cover NB-IoT	13.6.0
CT75	CP-170231	C6-170088	0240	1	В	Modification of test cases under cl. 11 and 8.5 to cover NB-IoT	13.6.0
	CP-170231	C6-170098	0238	3	В	Introduction of NB-IoT Applicability to some LTE test cases and addition of a new test case to cl. 8.2	13.6.0
	CP-170166	C6-170133	0226	2	F	Removal of test case for EFNASCONFIG – Extended Access Barring	13.6.0
	CP-170166	C6-	0230	3	F	Removal of test case for EFNASCONFIG – NMO I Network Mode of Operation I handling	13.6.0
2017-03	SA-75	-	-	-	-	Update to Rel-14 version (MCC)	14.0.0
CT-76	CP-171160	C6-170247	0243	-	В	Addition of new test case 5.2.X	14.1.0
CT-76	CP-171166	C6-170282	0228	3	F	Removal of test case for EFNASCONFIG - Minimum Periodic Search Timer	14.1.0
CT-76	CP-171166	C6-170283	0229	3	F	Removal of test case for EFNASCONFIG - NAS Signalling Priority	14.1.0
CT-76	CP-171166	C6-170284	0233	3	F	Removal of test case for EFNASCONFIG - SM_RetryAtRATChange	14.1.0
CT-76	CP-171166	C6-170229	0224	3	F	Removal of test case for Attach with IMSI	14.1.0
	CP-171166	C6-170248	0244	-	F	Correction to test case 11.4 for EPS NAS security context Storage	14.1.0
		CC 170016	0242		F	Added applicability for Rel.14 terminals	14.1.0
	CP-171166	C6-170216	0272				
CT-76	CP-171166	C6-170281	0224	4	F	Removal of test case for Attach with IMSI	14.1.0
CT-76 CT-76	CP-171166 CP-171166	C6-170281 C6-170286	0224 0245	-	D	Editorial corrections to clause 12.5	14.1.0
CT-76 CT-76 CT-77	CP-171166	C6-170281	0224				

CT-77	CP-172065	C6-170518	0253	1	В	Addition of new test case on handling non-integrity protected NAS reject messages	14.2.0
CT-78	CP-173150	C6-170633	0254	-	F	Fixed typos in table B.1	14.3.0
CT-78	CP-173150	C6-170735	0255	2	F	Fixed conditions for test cases for terminals that supports only E-UTRA	14.3.0
CT-78	CP-173150	C6-170744	0256	2	В	Introduction of test cases for UICC interface during PSM and eDRX	14.3.0
CT79	CP-180129	C6-180068	0257	1	F	Remove references to hardcoded timers for testcases for UICC interface during PSM and eDRX	14.4.0
CT79	CP-180129	C6-180062	0258	1	F	Correction of implementation error in applicability table	14.4.0
CT79	CP-180129	C6-180026	0259	1	F	Minor corrections to testcases for UICC interface during PSM and eDRX	14.4.0
CT79	CP-180129	C6-180063	0260	-	F	Move PSM/eDRX procedure selection decision to the network	14.4.0
CT79	CP-180129	C6-180078	0261	-	F	Correction to test case 11.4 for EPS NAS security	14.4.0
CT80	CP-181157	C6-180157	0262	1	В	Introduction of new test cases for user and	14.5.0
CT80	CP-181151	C6-180151	0263	-	F	operator controlled PLMN selector handling Applicability modification of TC 7.2.6, 7.2.7 and	14.5.0
						12.10	
CT80	CP-181151	C6-180155	0264	-	F	Addition of logical description of EFUMPC	14.5.0
SA80	OD 400100	00.400000	0005	_	,	Automatic updgrade to Rel-15	15.0.0
2018-09	CP-182188	C6-180368	0265	2	D	Editorial corrections to TC 13.2 and cl. 3.8	15.1.0
2018-09	CP-182188	C6-180340	0266	-	F	Modification of test procedures under cl. 13, and cl. 14	15.1.0
2018-09	CP-182188	C6-180382	0267	1	F	Correction of wrong implementation of CR#0262	15.1.0
2018-09	CP-182190	C6-180559	0268	1	F	Correction to the applicability table	15.1.0
2018-09	CP-182190	C6-180561	0269	1	F	TS 31.121: Adding applicability for Rel.15 terminals	15.1.0
2018-12	CP-183142	C6-180618	0271	-	F	Correction of typos in 7.1.8	15.2.0
2018-12	CP-183139	C6-180619	0272	-	F	Extend the scope of 31.121 to cover 5G aspects	15.2.0
2018-12	CP-183142	C6-180670	0273	1	F	Modification of test requirements for UICC reactivation/re-initialisation during PSM and eDRX	15.2.0
2019-03	CP-190046	C6-190039	0274	-	F	Applicability update of TC 7.2.7	15.3.0
2019-06	CP-191014	C6-190130	0276	-	F	Correction to test case 10.1.6	15.4.0
2019-06	CP-191014	C6-190139	0275	1	F	Correction to test case 11.4	15.4.0
2019-06	CP-191017	C6-190141	0277	1	В	Introduction of Handling subscription identifier privacy for 5G related test cases	15.4.0
2019-09	CP-192018	C6-190280	0283	2	В	Introducing 5G-NG TCs 5.3.1 and 5.3.2 for UE identification by SUCI during initial registration	15.5.0
2019-09	CP-192017	C6-190262	0278	1	F	Corrections to 5G-NG TC 5.3.4	15.5.0
2019-09		C6-190285	0279	2	F	Corrections to 5G-NG TC 5.3.5	15.5.0
2019-09	CP-192017	C6-190282	0280	2	F	Corrections to 5G-NG TC 5.3.6	15.5.0
2019-09	CP-192017	C6-190264	0281	1	F	Update of 5G-NG TC 5.3.8	15.5.0
2019-09	CP-192017	C6-190265	0282	1	F	Corrections to 5G-NG TC 5.3.9	15.5.0
2019-12	CP-193073	C6-190362	0294	1	F	Improvement of definitions	15.6.0
2019-12	CP-193074	C6-190376	0285	2	В	Introducing SUCI calculation by USIM testcase 5.3.3	15.6.0
2019-12	CP-193074	C6-190377	0286	2	В	Introducing SUCI calculation by USIM testcase 5.3.7	15.6.0
2019-12	CP-193074	C6-190378	0287	2	В	Introducing Universal Access Control testcase 5.4.1	15.6.0
2019-12	CP-193074	C6-190379	0288	2	В	Introducing Universal Access Control test case 5.4.2	15.6.0
2019-12	CP-193073	C6-190300	0300	-	D	Correction of subclause numbering in TC 5.4.2	15.6.0
2019-12	CP-193074	C6-190371	0289	1	В	Enhance SUCI calculation testcase 5.3.5 to ensure UE uses correct identity amongst the multiple available	15.6.0
2019-12	CP-193074	C6-190380	0290	1	F	Correction of EFIMSI for the default 5G-NR UICC	15.6.0
2019-12		C6-190357	0291	1	F	Correction of TC 5.3.1	15.6.0
2019-12		C6-190358	0292	1	F	Correction of TC 5.3.2	15.6.0
2019-12		C6-190331	0293	-	F	Update of case applicability for TC 5.3.x	15.6.0
2019-12	CP-193074	C6-190455	0295	2	F	Align wording of TC 5.3.1 with 3GPP TS 31.102	15.6.0

2019-12	CP-193074	C6-190464	0297	3	F	Align wording of TC 5.3.7 with 3GPP TS 31.102	15.6.0
2019-12	CP-193074	C6-190450	0298	2	F	Adding 5GS_Ph1 test cases to Applicability Table	15.6.0
						where missed in the initial CR	
2019-12	CP-193074	C6-190451	0299	1	D	Addition of 5G specific abbreviations	15.6.0
2019-12	CP-193074	C6-190459	0302	1	В	Introducing Universal Access Control test case	15.6.0
						5.4.5	
2019-12	CP-193074	C6-190460	0303	1	В	Introducing Universal Access Control test case	15.6.0
						5.4.8	
2019-12	CP-193074	C6-190461	0304	1	В	Introducing Universal Access Control test case	15.6.0
						5.4.9	
2019-12	CP-193074	C6-190463	0305	1	В	Introducing test case 5.3.11, SUCI calculation by	15.6.0
						ME using Profile A	
2020-01						Part of agreed C6-190380 was missing	15.6.1

History

	Document history								
V15.0.0	July 2018	Publication							
V15.1.0	November 2018	Publication							
V15.2.0	April 2019	Publication							
V15.3.0	April 2019	Publication							
V15.4.0	July 2019	Publication							
V15.5.0	October 2019	Publication							
V15.6.1	January 2020	Publication							