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**Universal Mobile Telecommunications System (UMTS);
LTE;
UICC-terminal interface;
Universal Subscriber Identity Module (USIM)
application test specification
(3GPP TS 31.121 version 9.1.0 Release 9)**



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Foreword

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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 or 3G E-UTRAN terminal and the USIM (Universal Subscriber Identity Module) as an application on the UICC and the Terminal for a 2G, 3G or 3G E-UTRAN 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.

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] | ETSI TS 102 221: "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". |

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
MF	Master File
MM	Multimedia Message
MMI	Man Machine Interface
MMS	Multimedia Messaging Service
MNC	Mobile Network Code
MS	Mobile Station
MSB	Most Significant Bit
NAS	Non Access Stratum
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
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
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 specified 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

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 subclause 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], subclause 7.2 shall be the basis for all performed procedures during the test. The procedures in subclause 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], subclause 10 shall be the basis for all performed procedures during the test. The procedures in subclause 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.

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.

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

Table A.1: Options

Item	Option	Status	Support	Mnemonic
1	Support of CS	O		O_CS
2	Support of a feature requiring PIN2 entry (such as e.g. AoC or FDN)	O		O_PIN2_ENTRY_FEAT
3	Support of UTRAN access	C001		O_UTRAN
4	Support of GERAN access	C002		O_GERAN
5	Support of Fixed Dialling Numbers	O		O_FDN
6	Support of Advice of Charge Charging	O		O_AoCC
7	Support of Higher priority PLMN selector with Access Technology service (Implementation is optional in Rel-6 and onwards)	C003		O_HPLMNwACT
8	Support of local phonebook	C004		O_Local_PB
9	Support of global phonebook	C004		O_Global_PB
10	Support of storing received Class 2 Short Messages in the USIM	O		O_Store_Received_SMS
11	Support of MMS	O		O_MMS
12	Support of usage of MMS related data stored on the USIM	C005		O_MMS_USIM_DATA
13	Supported of unselected user MMS connectivity parameters	O		O_NO_USER_MMS_CONF_SELECT
14	Support of MMS notification storage on the USIM	O		O_MMS_NOTIFICATION_STORAGE
15	Support of ACL	O		O_ACL
16	Support of SDN	O		O_SDN
17	Support of numerical entry of PLMN codes in EF PLMNwACT	O		O_EFPLMNwACT_numerical entry
18	Terminal does support speech call	O		O_Speech_Calls
19	Terminal support PIN MMI strings	O		O_PIN_MMI_Strings
20	Terminal does support eFDD	O		pc_eFDD
21	Terminal does support eTDD	O		pc_eTDD
22	Terminal does support CSG list handling	O		pc_Allowed_CSG_List
C001	If terminal is 3G terminal then M else N/A			
C002	If terminal is 2G terminal then M else 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 terminal is implemented according to Rel-6 or later then M, else O			
C005	If terminal is implemented according to R99 then N/A else if terminal is implemented according to Rel-4 then O else M			

3.8 Applicability table

Table B.1: Applicability of tests

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
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Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
1	UE identification by short IMSI	R99	5.1.1	M	M	M	M	M	M	M	UMTS System Simulator or System Simulator only		
2	UE identification by short IMSI using 2 digit MNC	R99	5.1.2	M	M	M	M	M	M	M	UMTS System Simulator or System Simulator only		
3	UE identification by "short" TMSI	R99	5.1.3	C004	C004	C004	C004	C004	C004	C004	UMTS System Simulator or System Simulator only		
4	UE identification by "long" TMSI	R99	5.1.4	C004	C004	C004	C004	C004	C004	C004	UMTS System Simulator or System Simulator only		
5	UE identification by long IMSI, TMSI updating after key set identifier assignment	R99	5.1.5	C004	C004	C004	C004	C004	C004	C004	UMTS System Simulator or System Simulator only		
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	C027	C027	E-UTRAN System Simulator only		
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	C027	C027	E-UTRAN System Simulator only		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
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	C027	C027	E-UTRAN System Simulator only		
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	C027	C027	E-UTRAN System Simulator only		
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	C027	C027	E-UTRAN System Simulator only		
11	Access Control information handling	R99	5.2.1	C024	C024	C024	C024	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	C027	C027	E-UTRAN System Simulator only		
13	Entry of PIN	R99	6.1.1	M	M	M	M	M	M	M	No		
14	Change of PIN	R99	6.1.2	M	M	M	M	M	M	M	No		
15	Unblock PIN	R99	6.1.3	C025	C025	C025	C025	C025	C025	C025	No		
16	Entry of PIN2	R99	6.1.4	C005	C005	C005	C005	C005	C005	C005	No		
17	Change of PIN2	R99	6.1.5	C005	C005	C005	C005	C005	C005	C005	No		
18	Unblock PIN2	R99	6.1.6	C026	C026	C026	C026	C026	C026	C026	No		
19	Replacement of PIN	R99	6.1.7	M	M	M	M	M	M	M	No		
20	Change of Universal PIN	R99	6.1.8	M	M	M	M	M	M	M	No		
21	Unblock Universal PIN	R99	6.1.9	M	M	M	M	M	M	M	No		
22	Entry of PIN on multi-verification capable UICCs	Rel-4	6.1.10	N/A	M	M	M	M	M	M	No		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
23	Change of PIN on multi-verification capable UICCs	Rel-4	6.1.11	N/A	M	M	M	M	M	M	No		
24	Unlock PIN on multi-verification capable UICCs	Rel-4	6.1.12	N/A	C025	C025	C025	C025	C025	C025	No		
25	Entry of PIN2 on multi-verification capable UICCs	Rel-4	6.1.13	N/A	C005	C005	C005	C005	C005	C005	No		
26	Change of PIN2 on multi-verification capable UICCs	Rel-4	6.1.14	N/A	C005	C005	C005	C005	C005	C005	No		
27	Unlock PIN2 on multi-verification capable UICCs	Rel-4	6.1.15	N/A	C026	C026	C026	C026	C026	C026	No		
28	Replacement of PIN with key reference "07"	Rel-4	6.1.16	N/A	M	M	M	M	M	M	No		
29	Terminal and USIM with FDN enabled, EF _{ADN} readable and updateable	R99	6.2.1	C006	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	C006	C006	C006	C006	C006	C006	C006	UMTS System Simulator or System Simulator only		
31	Enabling, disabling and updating FDN	R99	6.2.3	C006	C006	C006	C006	C006	C006	C006	UMTS System Simulator or System Simulator only		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
32	Terminal and USIM with FDN enabled, EF _{ADN} readable and updateable (Rel-4 and onwards)	Rel-4	6.2.4	N/A	C006	C006	C006	C006	C006	C006	UMTS System Simulator or System Simulator only		
33	AoC not supported by USIM	R99	6.4.1	C007	C007	C007	C007	C007	C007	C007	UMTS System Simulator or System Simulator only		
34	Maximum frequency of ACM updating	R99	6.4.2	C008	C008	C008	C008	C008	C008	C008	UMTS System Simulator or System Simulator only		
35	Call terminated when ACM greater than ACM _{max}	R99	6.4.3	C008	C008	C008	C008	C008	C008	C008	UMTS System Simulator or System Simulator only		
36	Response codes of increase command of ACM	R99	6.4.4	C008	C008	C008	C008	C008	C008	C008	UMTS System Simulator or System Simulator only		
37	Adding FPLMN to the forbidden PLMN list	R99	7.1.1	M	M	M	M	M	M	M	UMTS System Simulator or System Simulator only		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
46	User controlled PLMN selector handling for E-UTRAN	Rel-8	7.2.5	N/A	N/A	N/A	N/A	N/A	C022 AND C027	C022 AND C027	No		
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	C022 AND C027	C022 AND C027	E-UTRAN 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	C022 AND C027	C022 AND C027	E-UTRAN 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	M	M	UMTS System Simulator or System Simulator only		
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	M	M	UMTS System Simulator or System Simulator only		
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	C027	C027	E-UTRAN System Simulator only		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
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	C027	C027	E-UTRAN System Simulator only		
53	UE recognising the search period of the Higher priority PLMN	R99	7.4.1	C010	C010	C010	C010	C010	C010	C010	UMTS System Simulator or System Simulator only		
54	GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN	R99	7.4.2	C003	C003	C003	C003	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	C010 AND C027	C010 AND C027	E-UTRAN System Simulator only		
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	C003 AND C027	C003 AND C027	E-UTRAN and System Simulator		
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	C011 AND C027	C011 AND C027	E-UTRAN and UMTS System Simulator		
58	Recognition of a previously changed phonebook	R99	8.1.1	C012	C012	C012	M	M	M	M	No		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
59	Update of the Phonebook Synchronisation counter (PSC)	R99	8.1.2	C012	C012	C012	M	M	M	M	No		
60	Handling of BCD number/ SSC content extension	R99	8.1.3.1	N/A	N/A	C013	M	M	M	M	No		
61	Phonebook selection	R99	8.1.4	N/A	N/A	C014	M	M	M	M	No		
62	Local Phonebook handling	R99	8.1.5	N/A	N/A	C012	M	M	M	M	No		
63	Correct storage of a SM on the USIM	R99	8.2.1	C015	C015	C015	C015	C015	C015	C015	UMTS System Simulator or System Simulator only		
64	Correct reading of a SM on the USIM	R99	8.2.2	C015	C015	C015	C015	C015	C015	C015	UMTS System Simulator or System Simulator only		
65	UE recognising the priority order of MMS Issuer Connectivity Parameters	Rel-4	8.3.1	N/A	C016	C017	C017	C017	C017	C017	UMTS System Simulator or System Simulator only		
66	UE recognising the priority order of MMS User Connectivity Parameters	Rel-4	8.3.2	N/A	C016	C017	C017	C017	C017	C017	UMTS System Simulator or System Simulator only		

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
67	UE recognising the priority order of MMS Issuer Connectivity Parameters over the MMS User Connectivity Parameters	Rel-4	8.3.3	N/A	C016	C017	C017	C017	C017	C017	UMTS System Simulator or System Simulator only		
68	Usage of MMS notification	Rel-4	8.3.4	N/A	C018	C018	C018	C018	C018	C018	UMTS System Simulator or System Simulator only		
69	UICC presence detection	Rel-5	8.4	N/A	N/A	M	M	M	M	M	UMTS System Simulator or System Simulator only		AER001
70	UICC presence detection when connected to E-UTRAN/EPC	Rel-8	8.5	N/A	N/A	N/A	N/A	N/A	C027	C027	E-UTRAN System Simulator only		
71	Access Point Control List handling for terminals supporting ACL	R99	9.1.1	N/A	N/A	C019	C019	C019	C019	C019	UMTS System Simulator or System Simulator only		AER002
72	Network provided APN handling for terminals supporting ACL	R99	9.1.2	N/A	N/A	C019	C019	C019	C019	C019	UMTS System Simulator or System Simulator only		AER002
73	Access Point Control List handling for terminals not supporting ACL	R99	9.1.3	N/A	N/A	C020	C020	C020	C020	C020	UMTS System Simulator or System Simulator only		AER002

Item	Description	Tested feature defined in Release	Test sequence(s)	R99 ME	Rel-4 ME	Rel-5 ME	Rel-6 ME	Rel-7 ME	Rel-8 ME	Rel-9 ME	Network Dependency	Support	Additional test case execution recommendation
82	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	C028	C028	E-UTRAN System Simulator only		
83	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	C028	C028	E-UTRAN System Simulator only		
84	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	C027	C027	E-UTRAN System Simulator only		
85	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	C027	C027	E-UTRAN System Simulator only		
86	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	C027	C027	E-UTRAN System Simulator only		

Table B.1: Applicability of tests (continued)

- 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.

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:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	FF	FF	FF	FF	42	16	80	00	01	FF	00

4.1.1.4 EF_{Keys} (Cipherring and Integrity Keys)

Logically: Key Set Identifier KSI: 0x

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	FF	FF	FF	FF	FF	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	FF	FF	FF	FF	FF	FF

4.4.8 EF_{EPSNSC} (EPS NAS Security Context)

Logically: Key Set Identifier KSI_{ASME}: '07' (no key available)
ASME Key (KSI_{ASME}): 'FF' (not available)
Uplink NAS count: '00'
Downlink NAS count: '00'
Identifiers of selected NAS integrity and encryption algorithm: 'FF'

Coding:	B1	B2	B3	B4	B5	B6	B7	...	...	...	...	Bxx
Hex	A0	xx	80	01	07	81	00	...	...	...	...	xx

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 containing the IMSI of the USIM, which is less than the maximum length.

Reference:

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

- TS 24.008 [16], subclause 10.5.1.4;
- ETSI TS 102 221 [5], subclause 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.
- Access control: unrestricted.

The default 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.

5.1.1.4.2 Procedure

Expected Sequence A:

- a) The USS sends PAGING TYPE 1 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 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 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 containing the IMSI of the USIM.

Reference:

- TS 31.102 [4], subclause 4.2.18;
- TS 24.008 [16], subclause 10.5.1.4.

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.
- 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"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	FF	FF	FF	FF	42	F6	18	00	01	FF	00

EF_{IMSI} (IMSI)

Logically: 246813579

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	05	29	64	18	53	97	FF	FF	FF

EF_{AD} (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 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 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 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 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], subclause 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 subclauses 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 subclause 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], subclauses 5.1.1 and 5.2.2;
- TS 24.008 [16], subclause 10.5.1.4.
- TS 25.331 [20], subclause 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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	00	00	21	43	42	16	80	00	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.

5.1.3.4.2 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.

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], subclause 11.1.13.

Reference:

- ETSI TS 102 221 [5], subclause 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], subclauses 9 and 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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], subclause 11.1.10.

Reference:

- ETSI TS 102 221 [5], subclauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	35	37	36	38	37	39	38	30

The Terminal is powered-on, with the correct PIN entered.

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'..

- 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], subclause 11.1.13.

Reference:

- ETSI TS 102 221 [5], subclauses 9 and 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	35	37	36	38	37	39	38	30

6.1.12.4.2 Procedure

Sequence A:

- The Terminal is powered on and the correct PIN is entered.
- Enter "***05*64534231*1234*1234#"
- The Terminal is powered off and on.
- Enter the new PIN: "1234#".
- The Terminal is powered off and on.
- Enter a wrong PIN three times.
- Enter "***05*64534231*8642*8642#".
- The Terminal is powered off and on.
- Enter the new PIN: "8642#".

Sequence B:

- The Terminal is powered on.
- Enter a wrong PIN three times.
- The user shall initiate a MMI dependent procedure to unblock the PIN with unblock code '64534231' and a new PIN '8642'.
- 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 subclause 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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:

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	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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.

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], subclause 11.1.10.

Reference:

- ETSI TS 102 221 [5], subclauses 9 and 11.1.10;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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 a 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], subclause 11.1.13.

Reference:

- ETSI TS 102 221 [5], subclauses 9 and 11.1.13;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 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

Logically: 8642

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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.

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).
- l) 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], subclause 11.1.11, as well as the procedure to disable the replacement defined in ETSI TS 102 221 [5], subclause 11.1.12.

Reference:

- ETSI TS 102 221 [5], subclauses 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	B3	B4	B5	B6	B7	B8
Hex	38	36	34	32	FF	FF	FF	FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
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	39	37	35	33	FF	FF	FF	FF

Unblock PIN2

Key reference 87

Logically: 57687980

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	35	37	36	38	37	39	38	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 e) 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], subclauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2;
- TS 24.008 [16], subclause 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 USIM.

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 expectation applies:

EF_{ECC} (Emergency Call Codes)

Logically: Emergency call code: "122";
 Emergency call code alpha identifier: "TEST";
 Emergency call Service Category: RFU.

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], subclause 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], subclauses 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], subclauses 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	B2 44	B3 4E	B4 31	B5 31	B6 31	B7 06	B8 91	B9 78	B10 56	B11 34	B12 12	B13 F0
	B14 FF	B15 FF	B16 FF	B17 FF	B18 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], subclauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2;
- TS 24.008 [16], subclause 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 USIM.
- 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], subclause 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

- 1) 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], subclause 5.1.2.1;
- TS 23.086 [9], subclauses 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], subclause 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], subclause 4.3, part h;
- TS 31.102 [4], subclauses 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 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: 50 units

The SFI of EF_{ACM} shall be set to '18'.

EF_{ACMmax} (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], subclause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC e-parameters 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	USS -> UE	RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP COMPLETE	
5	UE -> USS	CM SERVICE REQUEST	
6	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity in step 8
7	UE -> USS	AUTHENTICATION RESPONSE	
8	USS -> UE	SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call setup
9	UE -> USS	SECURITY MODE COMPLETE	
10	UE -> USS	SETUP	
11	USS -> UE	CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUPCOMPLETE	
14	USS -> UE	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	UE -> USS	CONNECT ACKNOWLEDGE	
A17	UE -> USS	FACILITY	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 90 s after CAI information sent by USS,
19	USS -> UE	DISCONNECT	
20	UE -> USS	RELEASE	
21	USS -> UE	RELEASE COMPLETE	
22	USS -> UE	RRC CONNECTION RELEASE	
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	All connections of RRC are released.

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 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], subclause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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], subclause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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], subclauses 4.2.2 and 4.3 (part h);
- ETSI TS 102 221 [5], subclause 14.1.3;
- TS 31.102 [4], subclause 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 0000	0101 0000

The SFI of EF_{ACM} shall be set to '18'.

EF_{ACMmax} (Accumulated call meter maximum)

Logically: 94 units

Coding:	B1	B2	B3
binary	0000 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], subclause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC e-parameters 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	
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	USS -> UE	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	UE -> USS	CONNECT ACKNOWLEDGE	
A16	UE -> USS	FACILITY	As default message except contains Facility IE with 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	UE -> USS	DISCONNECT	
19	USS -> UE	RELEASE	
20	UE -> USS	RELEASE COMPLETE	
21	USS -> UE	RRC CONNECTION RELEASE	
22	UE -> USS	RRC CONNECTION RELEASE COMPLETE	All connections of RRC are released.

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	As default message except contains Facility IE with contents as indicated in ii) below
A13	UE -> SS	FACILITY	
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	The main signalling link is released.
16	SS -> UE	RELEASE	
17	UE -> SS	RELEASE COMPLETE	
18	SS -> UE	CHANNEL RELEASE	

Specific Message Contents:

- 7) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080 [17], subclause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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	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], subclause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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 ACM_{max}, 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], subclauses 4.2.9, 5.3.4 and Annex H.1;
- TS 22.086 [18], subclauses 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 xx11

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], subclause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC e-parameters 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 acknowledgement 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], subclause 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	UE -> USS	RRC CONNECTION REQUEST	
3	USS -> UE	RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP COMPLETE	
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			
10	UE -> USS	SETUP	
11	USS -> UE	CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUP COMPLETE	
14	USS -> UE	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	UE -> USS	CONNECT ACKNOWLEDGE	
A17	UE -> USS	FACILITY	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	UE -> USS	DISCONNECT	
20	USS -> UE	RELEASE	
21	UE -> USS	RELEASE COMPLETE	
22	USS -> UE	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	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	As default message except contains Facility IE with contents as indicated in ii) below
A13	UE -> SS	FACILITY	
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	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], subclause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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	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], subclause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 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:

- 7) 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], subclause 2.3;
- TS 31.102 [4], subclauses 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], subclause 2.3;
- TS 31.102 [4], subclauses 5.1.1 and 5.2.7.

- 3) After call termination the USIM shall contain the correct Key Set Identifier.

Reference:

- TS 31.102 [4], subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [19], subclause 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], subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [19], subclause 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], subclause 2.3;
- TS 31.102 [4], subclauses 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 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], subclause 3.2.2 2.3;
- TS 31.102 [4], subclauses 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], subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [6], subclause 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], subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 [6], subclause 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_{Keys} has been correctly updated by the Terminal.
- 4) To verify that the EF_{LOCI} has been correctly updated by the Terminal.

In case of a 3G 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
 - I. LOCATION UPDATING REJECT message with cause "PLMN not allowed" during registration on CS or.
 - II. ATTACH REJECT message with cause "PLMN not allowed" during registration on PS or.
 - III. LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration on CS/PS.
- 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 the EF_{LOCI} and EF_{PSLOCI} have been correctly updated by the Terminal during registration on CS/PS.

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: 2460811111111111

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 007
 LAI-LAC: 0000
 TMSI: "32547698"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	32	74	00	00	00	FF	00

EF_{PSLOCI} (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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	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.

In case of a Terminal accessing GERAN:**EF_{Keys} (Cipherring and Integrity Keys)**

Logically: Key Set Identifier KSI: 02
 Cipherring Keys CK: undefined
 Integrity Keys IK: undefined

Coding:	B1	B2	B3	...	B16	B17	B18	...	B31	B32	B33
Hex	02	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.

- 7) 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.

- 7) 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.

- 7) 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 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 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
- 7) During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS 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): 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.

7) 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.

7) 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.

7) 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): 234/007/0001

RAI (MCC/MNC/LAC/RAC): 234/007/0001/05

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:

PLMN (MCC/MNC): 234/008/0001

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

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.
- 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..
- 7) 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	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
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):

EF_{LocI} (Location Information)

Logically: LAI-MCC: 234
LAI-MNC: 008
TMSI: "43658709"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	32	84	00	xx	xx	xx	00

For 3G terminals supporting (CS and PS) or (PS only):

EF_{PSLocI} (Location Information)

Logically: RAI-MCC: 234
RAI-MNC: 008
P-TMSI: "43658709"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	xx	xx	xx	32	84	00	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

In case of a Terminal accessing GERAN:

EF_{Keys} (Cipherying and Integrity Keys)

Logically: Key Set Identifier KSI: 07 (not available)
Cipherying 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

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:

- 7) 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], subclause 3.2.2.4.
- TS 31.102 [4], subclauses 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:

- 7) 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], subclause 3.2.2.4.
- TS 31.102 [4], subclauses 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:

EF_{FPLMN} (Forbidden PLMNs)

Logically:	PLMN1:	234 001 (MCC MNC)
	PLMN2:	empty
	PLMN3:	234 003
	PLMN4:	234 004
	PLMN5:	234 005
	PLMN6:	234 006

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	FF	FF	FF	32	34	00	32	44	00
	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.

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 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 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 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.
- 7) After step d) the USIM shall contain:

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: 234 001 (MCC MNC)
 PLMN2: 234 002
 PLMN3: 234 003
 PLMN4: 234 004
 PLMN5: 234 005
 PLMN6: 234 006

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	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						

or

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: 234 001 (MCC MNC)
 PLMN2: 234 003
 PLMN3: 234 004
 PLMN4: 234 005
 PLMN5: 234 006
 PLMN6: 234 002

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
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	24	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:

- 7) 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:

- 1) 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], subclause 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], subclause 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:
 - 7) 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], subclause 3.2.2.2.
 - TS 31.102 [4], subclauses 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:
 - 7) 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 ATTACH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
 - TS 22.011 [6], subclause 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
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	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):	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):	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): 234/005
 - 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.

7) 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	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	FF	FF	FF	FF	FF	FF						

For 2G terminals and 3G terminals supporting CS only or CS/PS :

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 005
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	32	54	00	xx	xx	xx	00

For Ues supporting PS only or CS/PS :

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234
 RAI-MNC: 005
 P-TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	xx	xx	xx	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

- 1) 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], subclause 2.3;
 - TS 31.102 [4], subclauses 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], subclause 3.2.2 2.3;
 - TS 31.102 [4], subclauses 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], subclause 5.5.1.2.5;
 - TS 31.102 [4], subclauses 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], subclauses 5.1.2 and 4.2.9.1;
- TS 21.111 [6], subclause 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 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 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 then resumes RF output on the BCCH.

- c) The E-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 E-USS then resumes RF output on the BCCH.

- d) The E-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 E-USS then resumes RF output on the BCCH.

- e) The E-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:

TAI (MCC/MNC/TAC):234/007/0001

The E-USS then resumes RF output on the BCCH.

- f) After receipt of an *RRCCConnectionRequest* from the UE, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* sent by the UE to the E-USS.
- g) During registration and after receipt of an *AttachRequest* from the UE, the E-USS sends *AttachReject* to the UE with cause "PLMN Not Allowed", followed by *RRCCConnectionRelease*.
- h) The E-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:

TAI (MCC/MNC/TAC): 234/008/0001

The E-USS then resumes RF output on the BCCH.

- h) After receipt of an *RRCCConnectionRequest* from the UE, the USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* sent by the UE to the USS.
- i) 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* to the UE with:

TAI (MCC/MNC/TAC) list: 234/008/TACs: 0001, 0003, 0004

GUTI: "23400800010266345678"

- j) After receipt of *AttachComplete* during registration from the UE, the E-USS sends *RRCCConnectionRelease*.
- 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	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
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						

EF_{EPSLOC1} (EPS Information)

Logically: GUTI: 23400800010266345678
 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], subclause 3.2.2.4.
- TS 31.102 [4], subclauses 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 default E-UTRAN UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logically:	PLMN1:	234 001 (MCC MNC)
	PLMN2:	empty
	PLMN3:	234 003
	PLMN4:	234 004
	PLMN5:	234 005
	PLMN6:	234 006

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	FF	FF	FF	32	34	00	32	44	00
	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.

7.1.5.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a *RRCConnectionRequest* from the UE, 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 sends *AttachReject* to the UE with cause "PLMN Not Allowed", followed by *RRCConnectionRelease*.
- 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:

EF_{FPLMN} (Forbidden PLMNs)

Logically:	PLMN1:	234 001 (MCC MNC)
	PLMN2:	234 002
	PLMN3:	234 003
	PLMN4:	234 004
	PLMN5:	234 005
	PLMN6:	234 006

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	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						

or

EF_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: 234 001 (MCC MNC)
 PLMN2: 234 003
 PLMN3: 234 004
 PLMN4: 234 005
 PLMN5: 234 006
 PLMN6: 234 002

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
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	24	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], subclause 3.2.2.2.
 - TS 31.102 [4], subclauses 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], subclause 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:

- LAI (MCC/MNC/LAC): 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
PLMN5:	234 005 (MCC MNC)
PLMN6:	empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	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.

7.1.6.4.2 Procedure

- The UE is powered on.
- PLMN with MCC/MNC of 234/005 is manually selected.
- After receipt of a *RRCCoordinateRequest* from the UE, the E-USS sends *RRCCoordinateSetup* to the UE, followed by *RRCCoordinateSetupComplete* sent by the UE to the E-USS.
- 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) list: 234/005/TACs: 0001, 0003, 0004

GUTI: "23400500010266345678"

- After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCCoordinateRelease*.
- The UE is soft powered down.

7.1.6.5 Acceptance criteria

- After step c) the terminal shall send *AttachRequest* during registration
- After step d) the terminal shall respond with *AttachComplete* during registration
- 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	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	FF	FF	FF	FF	FF	FF						

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 23400500010266345678
 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				

7.2 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], subclause 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

- 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.
- 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
- 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:	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:

- 7) 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], subclause 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)

Logically:	1 st PLMN:	244 081 (MCC MNC)
	1 st ACT:	UTRAN
	2 nd PLMN:	244 081
	2 nd ACT:	GSM
	3 rd PLMN:	244 082
	3 rd ACT:	UTRAN
	3 rd PLMN:	244 082
	3 rd ACT:	GSM
	
	
	8 th PLMN:	244 034
	8 th ACT:	GSM
9 th PLMN:	244 033	
9 th ACT:	GSM	
10 th PLMN:	244 008	
10 th ACT:	UTRAN	
11 th PLMN:	244 034	
11 th ACT:	UTRAN	
12 th PLMN:	244 033	
12 th ACT:	UTRAN	

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	42	14	80	00	80	42	24	80	80	00
	B16	B17	B18	B19	B20	.....	.....	.....	.....		
	42	24	80	00	80	.....	.....	.....	.....		
				.....	.....	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45
				.....	.....	42	44	30	00	80	42	34	30	00	80
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	80	00	42	44	30	80	00	42	34	30	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.

7.2.2.4.2 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): 244/034
 - 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.
- 7) 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: 244

LAI-MNC: 034
TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	42	44	30	xx	xx	xx	00

For Ues accessing UTRAN and supporting (CS and PS) or (PS only):

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
RAI-MNC: 034
P-TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx	xx	xx	42	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], subclause 3.2.2;
- TS 31.102 [4], subclauses 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.
- LAI (MCC/MNC/LAC): 244/082/0001.
- 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 from the UE, the SS sends LOCATION UPDATING ACCEPT with:
 - LAI (MCC/MNC): 244/081
 - 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.

7.2.3.5 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 to the SS.
- 3) After step c) the UE shall respond with TMSI REALLOCATION COMPLETE.
- 4) After step e) the USIM shall contain the following values:

EF_{LOCi} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 081
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	42	14	80	xx	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], subclause 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:

1 st PLMN:	244 081 (MCC MNC)
1 st ACT:	E-UTRAN
2 nd PLMN:	567 04
2 nd ACT:	E-UTRAN
3 rd PLMN:	244 083
3 rd ACT:	E-UTRAN
4 th PLMN:	244 082
4 th ACT:	GSM
5 th PLMN:	244 003
5 th ACT:	E-UTRAN
6 th PLMN:	244 004
6 th ACT:	UTRAN
7 th PLMN:	244 005
7 th ACT:	UTRAN
8 th PLMN:	244 081
8 th ACT:	UTRAN
9 th PLMN:	244 007
9 th ACT:	UTRAN
10 th PLMN:	244 008
10 th ACT:	E-UTRAN
11 th PLMN:	244 009
11 th ACT:	UTRAN
12 th PLMN:	244 010
12 th 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], subclause 3.2.2;
- TS 31.102 [4], subclauses 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) list: 244/003/TACs: 0001, 0003, 0004

GUTI: "24400300010266345678"

- 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_{EPSLOC1} (EPS Information)

Logically: GUTI: 24400300010266345678
 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.

- TS 22.011 [6], subclause 3.2.2;
- TS 31.102 [4], subclauses 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 $EF_{PLMN_{wACT}}$) 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 *RRConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS sends *RRConnectionSetup* to the UE, followed by *RRConnectionSetupComplete* 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) list: 244/083/TACs: 0001, 0003, 0004

GUTI: "24408300010266345678"

- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRConnectionRelease*.
- e) The UE is soft powered down.

7.2.7.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRConnectionRequest* 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:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 24408300010266345678
 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:

- 7) 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], subclause 3.2.2;
- TS 31.102 [4], subclause 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.
- LAI (MCC/MNC/LAC): 254/012/0001.
- 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:	B1	B2	B3	B4	B5	B6
binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xx1x

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

EF_{OPLMNwACT} (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:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	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): 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): 254/012

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.

7) 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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	52	24	10	xx	xx	xx	00

For Ues supporting (CS and PS) or (PS only):

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 254
RAI-MNC: 012
P-TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx	xx	xx	52	24	10	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:

- 7) 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], subclause 3.2.2.2;
- TS 31.102 [4], subclauses 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 xx11	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	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	42	14	80	00	80	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	24	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	04	10	80	00	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):	244/010
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 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 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..
- 7) 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: 244
 LAI-MNC: 010
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
	34	56	78	90	42	04	10	xx	xx	xx	00

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	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx	xx	xx	42	04	10	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], subclause 3.2.2;
- TS 31.102 [4], subclause 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 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 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 default E-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:	B1	B2	B3	B4	B5	B6
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx xx1x

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

EF_{OPLMNwACT} (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* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 254/012, 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) list: 254/012/TACs: 0001, 0003, 0004

GUTI: "25401200010266345678"

d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCConnectionRelease*.

e) The UE is soft powered down.

7.3.3.5 Acceptance criteria

1.) After step a) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 254/012 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_{EPSLOC} (EPS Information)

Logically: GUTI: 25401200010266345678
 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], subclause 3.2.2.2;
- TS 31.102 [4], subclauses 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 $EF_{PLMN_{wACT}}$) takes precedence over the OPLMN with a higher priority when the UE performs a network selection. Hereby the new coding for RAT E-UTRAN has to be handled correctly by the UE.

7.3.4.4 Method of test

7.3.4.4.1 Initial conditions

For this test an E-USS 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 default E-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 'I'
- 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 xx11	xxxx xx1x

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

7.3.4.4.2 Procedure

- The UE is powered on.
- After receipt of an *RRConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/010, the E-USS sends *RRConnectionSetup* to the UE, followed by *RRConnectionSetupComplete* sent by the UE to the E-USS.
- 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) list: 244/010/TACs: 0001, 0003, 0004

GUTI: "24401000010266345678"

- After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRConnectionRelease*.
- The UE is soft powered down.

7.3.4.5 Acceptance criteria

- 1.) After step a) the UE shall send a *RRCConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/010 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_{EPSLOC1} (EPS Information)

Logically: GUTI: 24401000010266345678
 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				

7.4 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:

- 7) 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], subclauses 3.2.2 and 3.2.2.5.
- TS 24.008 [16], subclause 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 6minutes

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): 244/082
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): 244/081
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

- 1) After step e) the UE accessing a GERAN shall send CHANNEL REQUEST on the cell related to the BCCH transmitting MCC/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.

- 7) 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_{LOC}I (Location Information)

Logically: LAI-MCC: 244
LAI-MNC: 081
TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	14	80	xx	xx	xx	00

For Ues supporting (CS and PS) or (PS only):

EF_{PSLOC}I (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:	B12	B13	B14
Hex	xx	xx	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:

- 7) 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], subclauses 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:

EF_{HPLMNwACT} (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 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

Coding: B1 B2 B3 B4 B5 B6
binary xx1x xx11 xxxx xxxx xxxx 1x00 xxxx x1xx xxxx xx11 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): 244/082
 - 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.

7) After step i) the USIM shall contain the following values:

For Ues supporting (CS and PS) or (CS only):

EF_{LOC} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	14	80	xx	xx	xx	00

For Ues supporting (CS and PS) or (PS only):

EF_{PSLOC} (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:	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], subclauses 3.2.2 and 3.2.2.5.
- TS 24.301 [26], subclause 5.5.3.2

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 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 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 default E-UICC shall be used with the following exception:

EF_{HPPLMN} (Higher Priority PLMN Search period)

Logically: set to 6minutes

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 *RRConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/008, the E-USS sends *RRConnectionSetup* to the UE, followed by *RRConnectionSetupComplete* 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) list: 244/008/TACs: 0001, 0003, 0004
 - GUTI: "24400800010266345678"
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRConnectionRelease*.
- e) The USS 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 *RRConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083, the E-USS sends *RRConnectionSetup* to the UE, followed by *RRConnectionSetupComplete* 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) list: 244/083/TACs: 0001, 0003, 0004

GUTI: "24408300010266345678"

- h) After receipt of the *TrackingAreaUpdateComplete* during registration from the UE, the E-USS sends *RRConnectionRelease*.
- i) The UE is soft powered down.

7.4.3.5 Acceptance criteria

- 1.) After step e) the UE shall send a *RRConnectionRequest* on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/083 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_{EPSLOC1} (EPS Information)

Logically: GUTI: 24408300010266345678
 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], subclauses 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 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-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

Coding:	B1	B2	B3	B4	B5	B6
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx x1xx

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 *RRCCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting MCC/MNC 244/081, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* 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) list: 244/081/TACs: 0001, 0003, 0004
GUTI: "24408100010266345678"
- h) After receipt of the *TrackingAreaUpdateComplete* during registration from the UE, the E-USS sends *RRCCConnectionRelease*.
- i) The UE is soft powered down.

7.4.4.5 Acceptance criteria

- 1.) After step e) the UE shall send a *RRCCConnectionRequest* 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: 24408100010266345678
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], subclauses 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 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-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

Coding:	B1	B2	B3	B4	B5	B6
Binary	xx1x xx11	xxxx xxxx	xxxx 1x00	xxxx x1xx	xxxx xx11	xxxx x1xx

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

- The UE is powered on.
- 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.
- 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.
- 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.
- The USS 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.
- 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) list: 244/081/TACs: 0001, 0003, 0004

GUTI: "24408100010266345678"

h) After receipt of the *TrackingAreaUpdatComplete* during registration from the UE, the E-USS sends *RRConnectionRelease*.

i) The UE is soft powered down.

7.4.5.5 Acceptance criteria

1.) After step e) the UE shall send a *RRConnectionRequest* 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: 24408100010266345678
 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], subclause 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:

EF_{ADN} (Abbreviated Dialling Number)

Logically:

Record 1:	Length of alpha identifier:	32 characters;
	Alpha identifier:	"ABCDEFGHJKLMNOPQRSTUVWXYZABCDEF";
	Length of BCD number:	"03";
	TON and NPI:	Telephony and Unknown;
	Dialled number:	123;
	CCI:	None;
	Ext1:	None.

Record 1:

Coding:	B1	B2	B3	...	B32	B33	B34	B35	B36	B37	B38	B39	...	B46
Hex	41	42	43	...	46	03	81	21	F3	FF	FF	FF	...	FF

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 content 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], subclause 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

EF_{PUID} (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

EF_{PSC} (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], subclauses 4.4.2.3 and 4.4.2.4.

Reference:

- TS 31.102 [4], subclauses 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;
 Dialed 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	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46	
	91	00	11	22	33	44	55	66	77	88	99	FF	01	

Record 2: Length of alpha identifier: 32 characters;
 Alpha identifier: "Contact002";
 Length of BCD number: 11;
 TON and NPI: Telephony and International;
 Dialed number: "01234567890123456789";
 CCI: 'FF';
 Ext1: 'FF'.

Record 2:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...	B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	32	FF	...	FF	0B
	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46	
	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;
 Dialed number: "99887766554433221100";
 CCI: 'FF';
 Ext1: '02'.

Record 3:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...	B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	33	FF	...	FF	0B
	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;
 Dialed number: "1212121212121212";
 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	09
	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46	
	91	21	21	21	21	21	21	21	21	FF	FF	FF	FF	

Record 7: Length of alpha identifier: 32 characters;
 Alpha identifier: "Contact007";
 Length of BCD number: 3;
 TON and NPI: Telephony and International;
 Dialed number: "678";
 CCI: 'FF';
 Ext1: 'FF'.

Record 7:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...	B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	37	FF	...	FF	03
	B34	B35	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:	B1	B2	B3	B4	B5	B6	B7	B8	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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	02	04	11	1C	32	54	FF	FF	FF	FF	FF	FF	FF

Record 4: Record type: '00'
 Extension data: empty;
 Identifier: 'FF'.

Record 4:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

- 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], subclause 4.4.2.

Reference:

- TS 31.102 [4], subclause 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	B37	B38	B39	...	B46						
	91	00	F4	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;
 Dialed number: 1234;
 CCI: 'FF';
 Ext1: None.

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	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;
 Dialed number: 001;
 CCI: 'FF';
 Ext1: 'FF'.

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	03
	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;
 Dialed number: 002;
 CCI: 'FF';
 Ext1: 'FF'.

Record 2:

Coding:	B1	B2	B3	B4	B5	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;
 Dialed number: 0041;
 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	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;
 Dialed 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	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;
 Dialed number: 007;
 CCI: 'FF';
 Ext1: 'FF'.

Record 7:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...	B32	B33
Hex	43	6F	6E	74	61	63	74	30	30	37	FF	...	FF	03
	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;
 Dialed number: 008;
 CCI: 'FF';
 Ext1: 'FF'.

Record 8:

Coding:	B1	B2	B3	B4	B5	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.
- l) 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 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 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 "Contact005" 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.
- 11) 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.
- 13) 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], subclause 4.4.2.

Reference:

- TS 31.102 [4], subclause 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	B35	B36	B37	B38	B39	...	B46						
	91	00	F4	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:	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	B35	B36	B37	B38	B39	...	B46						
	91	21	43	FF	FF	FF	...	FF						

8.1.5.4.2 Procedure

- The terminal is switched on and the USIM application shall be activated.
- The user shall use an MMI dependent procedure to select the phonebook on the USIM (local phonebook).
- The local phonebook record with the alpha identifier "Contact005" and the associated dialling number shall be read by the user.
- 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 "Contact8901234567890123456789012".
- 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.
- The user shall delete the entry "Contact004" from the local phonebook.
- The user shall add a new entry with the values "Contact007" as alpha identifier and "+007" as associated dialling number to the local phonebook.
- The terminal is switched off.

8.1.5.5 Acceptance criteria

- 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 "Contact8901234567890123456789012" 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. 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.

8.2.1.2 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). 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], subclause 10.1, operation 6;
- TS 24.011, subclauses 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)
- TS 31.102 [4], subclauses 4.2.25 and 4.2.28.

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).
- 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.

8.2.1.4 Method of test

8.2.1.4.1 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_{SMS} (Short Message Service)

At least 10 records.
 Record 1 shall be empty.
 Logically: Status byte set to empty.

Record 1:

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

Coding:	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 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.

8.2.1.4.2 Procedure

- 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.
- After the UE has indicated that a SM was received, the SM shall not be read.
- 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".
- The UE is powered off.

8.2.1.5 Acceptance criteria

- 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: 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 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	A7	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								

- 7) After step d) the Memory Capacity Exceeded Notification Flag in the EF_{SMSS} shall be set to 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

8.2.2 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], subclauses 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:	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 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	FF	FF	FF	FF	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	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 represents the stored SMS.

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], subclauses 4.2.69 and 5.3.30;
- TS 23.140 [23], subclause 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], subclauses 4.2.70 and 5.3.31;
- TS 23.140 [23], subclause 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_OTSI"
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_OTSS2"
 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_OTSS1"
 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

Coding:	B1	B2	B3	B4	B5	B6	B7
Binary	xx1x xx11	x11x xxxx	xxxx 1x00	xxxx x1xx	xxxx xxx1	xxxx xxxx	x0xx 1xxx

EF_{MMSN}

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_{MMSICP}

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"
 Address: "+496998625"
 Type of address: "E164"
 Speed: "Autobauding"
 Call type: "ANALOG_MODEM"
 Authentication type: "PAP"
 Authentication id: "B2B_OTSI1"
 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_OTSI2"
 Authentication pw: "B2C_password2"

3rd 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_OTSI1"
 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_OTSS2"
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 08 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 08 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 08 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 08 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
        08 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 08 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
    
```

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
        2F 80 08 06 81 04 41 D5 E8 00
    
```

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], subclauses 4.2.71 and 5.3.32;
- TS 23.140 [23], subclause 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], subclauses 4.2.70 and 5.3.31;
- TS 23.140 [23], subclause 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_OTSI"
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_OTSI2"
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_OTSI1"
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_OTSI2"
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 xxx1	xxxx xxxx	x1xx 1xxx

EF_{MMSN}

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_{MMSICP}

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
	2F	80	08	06	81	04	41	D5	E8	00		

EF_{MMSUCP}

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

Bearer: "GSM-CSD"

Address: "+495251699"

Type of address: "E164"

Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "UDO_OTTS1"

Authentication pw: "Udo_password1"

2nd 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_OTTS2"

Authentication pw: "Udo_password2"

3rd 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_OTTS1"

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_OTTS2"

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"

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	08	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	08	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	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	CB	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 EF_{MMSUCP} as 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 EF_{MMSUCP}.
- 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], subclauses 4.2.69, 4.7.71, 5.3.30 and 5.3.32;
- TS 23.140 [23], subclause 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_OTSI1"
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_OTSI1"
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_OTSI2"
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_OTSS2"
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:	B1	B2	B3	B4	B5	B6	B7
Binary	xx1x xx11	x11x xxxx	xxxx 1x00	xxxx x1xx	xxxx xxx1	xxxx xxxx	x1xx 1xxx

EF_{MMSN}

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_{MMSICP}

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: " $1 \cdot 10^{-5}$ "
 SDU-Error-Ratio: " $1 \cdot 10^{-6}$ "
 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: " $1 \cdot 10^{-5}$ "
 SDU-Error-Ratio: " $1 \cdot 10^{-6}$ "
 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	3A	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	33	2E	63	6F	6D	82	2F	10
	AA	08	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	08	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	08	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	08	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
	08	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	08	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					

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
	2F	80	08	06	81	04	41	D5	E8	00		

EF_{MMSUCP}

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: "+495251699"
 Type of address: "E164"
 Speed: "Autobauding"
 Call type: "ANALOG_MODEM"
 Authentication type: "PAP"
 Authentication id: "UDO_OTS1"
 Authentication pw: "Udo_password1"

2nd 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"

3rd 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"

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"
 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	3A	2F	2F	6D	6D	73	2D	6F	70	65	72
	61	74	6F	72	33	2E	63	6F	6D	82	2F	10
	AA	08	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	08	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	08	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	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	33	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	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

- The Terminal is powered on and the PIN shall be entered.
- 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], subclauses 4.2.67 and 5.3.29;
- TS 23.140 [23], subclauses 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_OTSI1"
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

Coding:	B1	B2	B3	B4	B5	B6	B7
Binary	xx1x xx11	x11x xxxx	xxxx 1x00	xxxx x1xx	xxxx xxx1	xxxx xxxx	x0x1 1xxx

EF_{MMSN}

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"
 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	08	06	81	04	41	D5	E8	00		

EF_{MMSICP}

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"
 Address: "+496998625"
 Type of address: "E164"
 Speed: "Autobauding"
 Call type: "ANALOG_MODEM"
 Authentication type: "PAP"
 Authentication id: "B2B_OTSI1"
 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_OTSI2"
 Authentication pw: "B2C_password2"
 3rd 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_OTSI1"
	Authentication pw:	"B2B_password1"
4 th	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_OTSI2"
	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 08 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 08 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 08 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 08 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	
	08 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 08 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

- The terminal is powered on and the PIN shall be entered.
- 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"

- The user shall read the MMS notification stored on the USIM.
- The user shall retrieve the MM stored on the MMS Relay/Server used in step b).
- The user shall forward the MM to "+0123456789" using the default MMS Issuer Connectivity Parameters stored on the USIM.
- 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"

- The user shall read the MMS notification stored on the USIM.
- The user shall reject the MM stored on the MMS Relay/Server used in step b).

8.3.4.5 Acceptance criteria

- 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 8.4.4.2, 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.

- TS 31.102 [4], subclauses 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.
- b) The UICC simulator shall monitor the time of periods of inactivity on the UICC-Terminal interface.
- c) After 3 minutes, the call shall be cleared.
- d) A call shall be set up using the generic call setup.
- 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 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. .

There is 1:1 mapping between one PDP context and one EPS Bearer.

- TS 31.102 [4], subclauses 5.1.9
- ETSI TS 102 221 [5], clause 14.5.2.
- TS 23.060 [25], subclause 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.

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

8.5.4.2 Procedure

- a) The terminal is switched on, performs the Attach procedure to the E-USS and establishes the default EPS bearer.
- 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], subclauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], subclauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], subclause 9.2.

9.1.1.3 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 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)

Logically: Number of available bytes: 64
 Number of APNs: 3
 1st APN: test.test
 2nd APN: 3gpp.test
 3rd APN: 2gpp.test

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	B38	...	B64								
	74	FF	...	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.
- l) 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], subclauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], subclauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], subclause 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)

Logically: Number of available bytes: 64
 Number of APNs: 3
 1st APN: test.test
 2nd APN: 3gpp.test
 3rd APN: 2gpp.test

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	B38	...	B64								
	74	FF	...	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.
- l) 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

9.1.3.4.1 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)

Logically:	Number of available bytes: 64											
	Number of APNs: 3											
	1 st APN: test.test											
	2 nd APN: 3gpp.test											
	3 rd APN: 2gpp.test											
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	B38	...	B64								
	74	FF	...	FF								

9.1.3.4.2 Procedure

- The terminal is switched on and the USIM application shall be activated.
- The user shall request a PDP context activation to "3gpp.test".
- The terminal shall be switched off.

9.1.3.5 Acceptance criteria

- 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.
- 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). 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.

There is 1:1 mapping between one PDP context and one EPS Bearer.

9.1.4.2 Conformance requirement

The terminal shall support the APN Control List service as defined in TS 31.102 [4], subclauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], subclauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], subclause 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}.

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 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:

EF_{ACL} (Access Point Control List)

Logically: Number of available bytes: 64
 Number of APNs: 3
 1st APN: test.test
 2nd APN: 3gpp.test
 3rd APN: 2gpp.test

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	B38	...	B64								
	74	FF	...	FF								

9.1.4.4.2 Procedure

- a) The terminal is switched on and the USIM application shall be activated.
- 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) 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 PDN connectivity to "1gpp.test".
- g) The user shall deactivate the PDN connectivity to "1gpp.test" 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 PDN connectivity 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.
- l) The user shall request PDN connectivity to "1ppp.net".
- m) The user shall deactivate the PDN connectivity and 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 e) the APN Control List service shall have been set to disabled in EF_{EST} .
- 6) After step f) PDN connectivity shall have been activated.
- 7) After step g) PDN connectivity 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 PDN connectivity 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) PDN connectivity shall have been activated.

9.1.5 Network provided APN handling for terminals supporting ACL connected to E-UTRAN/EPC

9.1.5.1 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} .

There is 1:1 mapping between one PDP context and one EPS Bearer.

9.1.5.2 Conformance requirement

The terminal shall support the APN Control List service as defined in TS 31.102 [4], subclauses 5.1.1.2 and 5.3.14.

Reference:

- TS 31.102 [4], subclauses 4.2.8, 4.2.48, 5.1.1.2 and 5.3.14;
- TS 23.060 [25], subclause 9.2, 9.2.1A.

9.1.5.3 Test purpose

- 1) To verify that if ACL is enabled and if no APN is indicated in the EPS Bearer the terminal request the EPS Bearer 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.

9.1.5.4 Method of test

9.1.5.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the E-USS.

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:

EF_{ACL} (Access Point Control List)

Logically: Number of available bytes: 64
 Number of APNs: 3
 1st APN: test.test
 2nd APN: 3gpp.test
 3rd APN: 2gpp.test

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	B38	...	B64								
	74	FF	...	FF								

9.1.5.4.2 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 PDN connectivity to "3gpp.test".
- d) The user shall deactivate the PDN connectivity to "3gpp.test".
- e) The user shall request PDN connectivity 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 PDN connectivity to "3gpp.test".
- i) The user shall deactivate the PDN connectivity to "3gpp.test".
- j) The user shall request PDN connectivity 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.
- l) The user shall switch off the terminal.

9.1.5.5 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) After step b) EF_{ACL} shall contain an entry for "network provided APN".
- 3) After step c) PDN connectivity shall have been activated.
- 4) After step d) PDN connectivity shall have been deactivated.
- 5) After step e) PDN connectivity shall have been activated.
- 6) After step f) PDN connectivity shall have been deactivated.
- 7) After step g) EF_{ACL} shall not contain an entry for "network provided APN".
- 8) After step h) PDN connectivity shall have been activated.
- 9) After step i) PDN connectivity shall have been deactivated.
- 10) The terminal shall have not requested PDN connectivity 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.

9.1.6 Access Point Name Control List handling for terminals not supporting ACL connected to E-UTRAN/EPC

9.1.6.1 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.

There is 1:1 mapping between one PDP context and one EPS Bearer.

9.1.6.2 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.
- TS 23.060 [25], 9.2.1A.

9.1.6.3 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 an EPS Bearer activation.

9.1.6.4 Method of test

9.1.6.4.1 Initial conditions

The terminal is connected to the USIM Simulator and the E-USS.

The default EUTRAN 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:

EF_{ACL} (Access Point Control List)

Logically: Number of available bytes: 64
 Number of APNs: 3
 1st APN: test.test
 2nd APN: 3gpp.test
 3rd APN: 2gpp.test

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	B38	...	B64								
	74	FF	...	FF								

9.1.6.4.2 Procedure

- The terminal is switched on and the USIM application shall be activated.
- The user shall request PDN connectivity to "3gpp.test".
- The terminal shall be switched off.

9.1.6.5 Acceptance criteria

- 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.
- The terminal shall not have sent any APN to the network in step b).

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], subclauses 4.2.8 and 4.2.29.

Reference:

- TS 31.102 [4], subclauses 4.2.8, 4.2.29 and 4.2.31;
- TS 22.101 [11], subclause 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 extended 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:	"Hotline001122334455667788ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789";
	Length of BCD number:	5;
	TON and NPI:	Telephony and International;
	Dialled number:	"22223333";
	CCP:	'FF';
	Ext3:	'FF'.

Record 1:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...
Hex	48	6F	74	6C	69	6E	65	30	30	31	...	...
	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	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;
 Dialed number: "44554455";
 CCI2: 'FF';
 Ext3: 'FF'.

Record 2:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	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	91	44	55	44	55	FF	FF	FF	FF	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;
 Dialed 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	B254	B255									
	98	FF	01									

Record 4: Length of alpha identifier: 241 characters;
 Alpha identifier: empty;
 Length of BCD number: 03;
 TON and NPI: Telephony and International;
 Dialed number: "007";
 CCI2: 'FF';
 Ext3: 'FF'.

Record 4:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	...
	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252
	FF	03	91	00	F7	FF	FF	FF	FF	FF	FF	FF
	B253	B254	B255									
	FF	FF	FF									

Record 5: Length of alpha identifier: 241 characters;
 Alpha identifier: empty;
 Length of BCD number: 3;
 TON and NPI: Telephony and International;
 Dialed number: "008";
 CCI2: 'FF';
 Ext3: 'FF'.

Record 5:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	...
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	...
	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252
	FF	03	91	00	F8	FF	FF	FF	FF	FF	FF	FF
	B253	B254	B255									
	FF	FF	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	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	02	03	10	32	54	FF	FF	FF	FF	FF	FF	FF	FF

9.2.4.2 Procedure

- The terminal is switched on and the USIM application shall be activated.
- The user shall use an MMI dependent procedure to set up a call to the dialling number associated with the alpha identifier
 "Hotline001122334455667788ABCDEFGHIJKLMN0PQRSTUVWXYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789ABCDEFGHIJKLMN0PQRSTUVWXYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789ABCDEFGHIJKLMN0PQRSTUVWXYZ0123456789abcdefghijklmnopqrstuvwxyz0123456789" in record 1 of EF_{SDN}.
- The user shall end the call.
- 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}.
- The user shall end the call.
- 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

- 1) After step a) the terminal shall have activated the USIM application and shall have read the status of the SDN service in EF_{UST}.
- 2) 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], subclause 8.2.2.1;
- TS 31.102 [4], subclauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], subclause 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 *RRCCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* 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) list: 246/081/TACs: 0001, 0003, 0004

GUTI: "24608100010266345678"

- e) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCCConnectionRelease* 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:

EF_{EPSLOCI} (EPS Information)

Logically: GUTI: 24608100010266345678
 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), 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], subclause 8.2.2.1;
- TS 31.102 [4], subclauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], subclause 3.1A.
- TS 24.301 [26], subclause 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 *RRCCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* sent by the UE to the E-USS.
- c) During registration and after receipt of an *AttachRequest* from the UE, the E-USS sends *AttachReject* to the UE with cause #25 (Not authorized for this CSG), followed by *RRCCConnectionRelease*.
- d) The UE is soft powered down.

10.1.2.5 Acceptance criteria

- 1.) After step a) the UE shall send an *RRCCConnectionRequest* 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:

EF_{EPSLOC1} (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	xx	xx	xx	xx	xx	xx
	B12	B13	B14	B15	B16	B17	B18				
	xx	42	16	80	00	01	02				

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)

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 CSD ID to the Allowed CSG list.

- TS 31.102 [4], subclauses 4.4.6.2 and 5.8.1;
- TS 23.122 [31], subclause 3.1A.
- TS 24.301 [26], subclause 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 *RRCCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0001, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* 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) list: 246/081/TACs: 0001, 0003, 0004
 - GUTI: "24608100010266345678"
- d) After receipt of the *AttachComplete* during registration from the UE, the E-USS sends *RRCCConnectionRelease* 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 *RRCCConnectionRequest* from the UE on the E-UTRAN-cell related to the BCCH transmitting TAI 246/081/0002, the E-USS sends *RRCCConnectionSetup* to the UE, followed by *RRCCConnectionSetupComplete* 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) list: 246/081/TACs: 0002, 0003, 0004

GUTI: "24608100010266345699"

- h) After receipt of the *TrackingAreaUpdateComplete* during registration from the UE, the E-USS sends *RRConnectionRelease* 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 *RRConnectionRequest* 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 *RRConnectionRequest* 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 i) the USIM shall contain the following values:

EF_{EPSLOC1} (EPS Information)

Logically: GUTI: 24608100010266345699
 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)

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)
1 st CSG list	3 rd CSG Type indication	'FF'
1 st CSG list	3 rd CSG HNB Name indication	'FF'
1 st CSG list	3 rd CSG CSG ID:	04 (27bit)

CT-46	CP-090998	C6-090499	0135		F	Update of CGS list tests	8.2.0	8.3.0
CT-46	-	-	-	-	-	Upgrade of the specification to Rel-9	8.3.0	9.0.0
CT-47	CP-100195	C6-100071	0139	1	D	Editorial modifications about missing section numbers	9.0.0	9.1.0
CT-47	CP-100193	C6-100029	0137	-	F	Introduction of Rel-9 applicability and applicability table corrections	9.0.0	9.1.0

History

Document history		
V9.0.0	January 2010	Publication
V9.1.0	April 2010	Publication