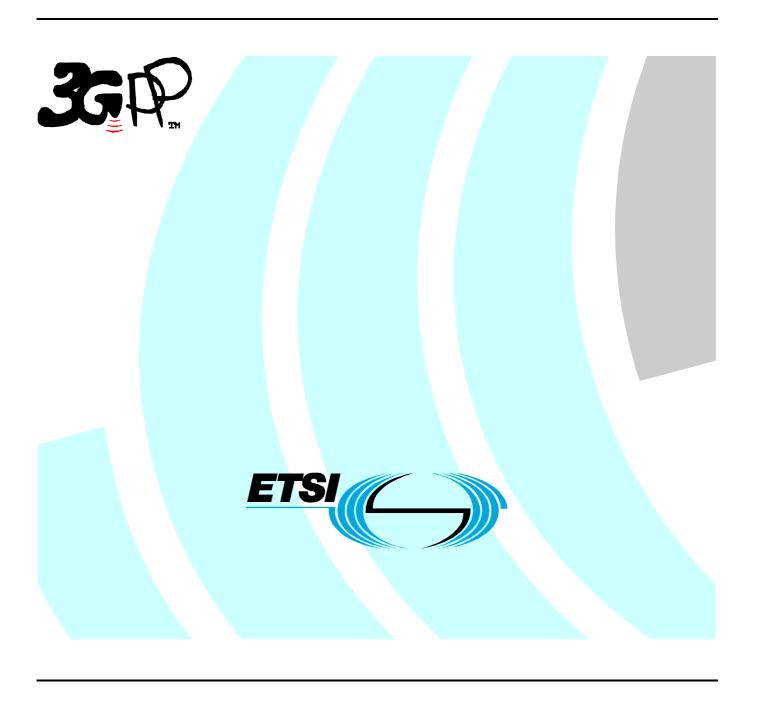
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application test specification
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Foreword

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Contents

Intelle	ctual Property Rights	2
Forew	ord	2
Forew	ord	11
Introd	uction	11
1	Scope	12
2	References	12
3	Definitions, symbols, abbreviations and coding	13
3.1	Definitions	13
3.2	Symbols	14
3.3	Abbreviations	14
3.4	Coding Conventions	15
3.5	Generic procedures for UTRAN	
4	Default Values	
4.1	Definition of default values for USIM-Terminal interface testing (Default UICC)	
4.1.1	Values of the EF's (Default UICC)	16
4.1.1.1	EF _{IMSI} (IMSI)	16
4.1.1.2	EF _{AD} (Administrative Data)	16
4.1.1.3	EF _{LOCI} (Location Information)	16
4.1.1.4	EF _{Kevs} (Ciphering and Integrity Keys)	17
4.1.1.5		
4.1.1.6		
4.1.1.7	,	
4.1.1.8		
4.1.1.9	****	
4.1.1.1 4.1.1.1		
4.1.1.1	TEMINWACT (
4.1.1.1	of Entwace (- F	
4.1.1.1		
4.1.1.1		
4.1.1.1		
4.1.1.1		
4.1.1.1		20
4.1.1.1	8 Other Values of the USIM	20
4.1.1.1	9 EF _{PSLOCI} (Packet Switch Location Information)	20
4.1.1.2	0 Universal PIN	20
4.1.1.2	1 Unblock Universal PIN	20
4.2	Definition of FDN UICC	21
4.2.1	Values of the EF's (FDN UICC)	
4.2.1.1	· · · · · · · · · · · · · · · · · · ·	
4.2.1.2	THE CONTRACTOR OF THE CONTRACT	
4.2.1.3		
4.2.1. <i>3</i> 4.2.1.4		
4.2.1.5		
5	Subscription related tests	
5.1	IMSI / TMSI handling	
5.1.1	UE identification by short IMSI	
	· ·	
5.1.1.1		
5.1.1.2	1	
5.1.1.3	1 1	
5.1.1.4		
5.1.1.4		
5.1.1.4	.2 Procedure	23

5.1.1.5	Acceptance criteria	
5.1.2	UE identification by short IMSI using a 2 digit MNC	24
5.1.2.1	Definition and applicability	24
5.1.2.2	Conformance requirement	24
5.1.2.3	Test purpose	24
5.1.2.4	Method of test	24
5.1.2.4.1	Initial conditions	24
5.1.2.4.2	Procedure	25
5.1.2.5	Acceptance criteria	25
5.1.3	UE identification by "short" TMSI	25
5.1.3.1	Definition and applicability	25
5.1.3.2	Conformance requirement	25
5.1.3.3	Test purpose	25
5.1.3.4	Method of test	26
5.1.3.4.1	Initial conditions	26
5.1.3.4.2	Procedure	26
5.1.3.5	Acceptance criteria	26
5.1.4	UE identification by "long" TMSI	26
5.1.4.1	Definition and applicability	26
5.1.4.2	Conformance requirement	
5.1.4.3	Test purpose	
5.1.4.4	Method of test	
5.1.4.4.1	Initial conditions	
5.1.4.4.2	Procedure	
5.1.4.5	Acceptance criteria	
5.1.5	UE identification by long IMSI, TMSI updating and key set identifier assignment	
5.1.5.1	Definition and applicability	
5.1.5.2	Conformance requirement	
5.1.5.3	Test purpose	
5.1.5.4	Method of test	
5.1.5.4.1	Initial conditions	
5.1.5.4.2	Procedure	
5.1.5.5	Acceptance criteria	
5.2	Access Control handling	
5.2.1	Access Control information handling	
5.2.1.1	Definition and applicability	
5.2.1.2	Conformance requirement	
5.2.1.3	Test purpose	
5.2.1.4	Method of test	
5.2.1.4.1	Initial conditions	
5.2.1.4.2	Coding details	
5.2.1.4.3	Procedure	
5.2.1.5	Acceptance criteria	
6 Se	curity related Tests	
6.1	PIN handling	
6.1.1	Entry of PIN	
6.1.1.1	Definition and applicability	39
6.1.1.2	Conformance requirement	39
6.1.1.3	Test purpose	39
6.1.1.4	Method of test	39
6.1.1.4.1	Initial conditions	39
6.1.1.4.2	Procedure	39
6.1.1.5	Acceptance criteria	39
6.1.2	Change of PIN	
6.1.2.1	Definition and applicability	40
6.1.2.2	Conformance requirement	
6.1.2.3	Test purpose	40
6.1.2.4	Method of test	
6.1.2.4.1	Initial conditions	40
6.1.2.4.2	Procedure	40
6125	Acceptance criteria	40

6.1.3	Unblock PIN	
6.1.3.1	Definition and applicability	
6.1.3.2	Conformance requirement	41
6.1.3.3	Test purpose	
6.1.3.4	Method of test	41
6.1.3.4.1	Initial conditions	
6.1.3.4.2	Procedure	
6.1.3.5	Acceptance criteria	41
6.1.4	Entry of PIN2	42
6.1.4.1	Definition and applicability	42
6.1.4.2	Conformance requirement	42
6.1.4.3	Test purpose	
6.1.4.4	Method of test	42
6.1.4.4.1	Initial conditions	
6.1.4.4.2	Procedure	
6.1.4.5	Acceptance criteria	
6.1.5	Change of PIN2	
6.1.5.1	Definition and applicability	
6.1.5.2	Conformance requirement	
6.1.5.3	Test purpose	
6.1.5.4	Method of test	43
6.1.5.4.1	Initial conditions	
6.1.5.4.2	Procedure	
6.1.5.5	Acceptance criteria	
6.1.6	Unblock PIN2	
6.1.6.1	Definition and applicability	
6.1.6.2	Conformance requirement	
6.1.6.3	Test purpose	
6.1.6.4	Method of test	
6.1.6.4.1	Initial conditions	
6.1.6.4.2	Procedure	
6.1.6.5	Acceptance criterias	
6.1.7	Replacement of PIN	
6.1.7.1	Definition and applicability	
6.1.7.2	Conformance requirement	
6.1.7.3	Test purpose	
6.1.7.4	Method of test	
6.1.7.4.1	Initial conditions	
6.1.7.4.2	Procedure	
6.1.7.5	Acceptance criteria	
6.1.8	Change of Universal PIN	
6.1.8.1	Definition and applicability	
6.1.8.2	Conformance requirement	
6.1.8.3	Test purpose	
6.1.8.4	Method of test	
6.1.8.4.1	Initial conditions	
6.1.8.4.2	Procedure	
6.1.8.5	Acceptance criteria	
6.1.9	Unblock Universal PIN	
6.1.9.1	Definition and applicability	
6.1.9.2	Conformance requirement	
6.1.9.3 6.1.9.4	Test purpose	
6.1.9.4	Method of test	
6.1.9.4.1	Procedure	
6.1.9.5	Acceptance criteria	
6.1.10 6.1.10.1	Entry of PIN on multi-verification capable UICCs	
6.1.10.1	Definition and applicability Conformance requirement	
6.1.10.2	Test purpose	
6.1.10.3	Method of test	
6.1.10.4	Initial conditions	
U.I.IU.T.I	1111441 COHGIUOHS	

6.1.10.4.2	Procedure	40
6.1.10.5	Acceptance criteria	
6.1.11	Change of PIN on multi-verification capable UICCs	
6.1.11.1	Definition and applicability	
6.1.11.2	Conformance requirement	
6.1.11.3	Test purpose	
6.1.11.4	Method of test	
6.1.11.4.1	Initial conditions	
6.1.11.4.2		
6.1.11.5	Acceptance criteria	
6.1.12	Unblock PIN on multi-verification capable UICCs	
6.1.12.1	Definition and applicability	
6.1.12.2	Conformance requirement	
6.1.12.3	Test purpose	
6.1.12.4	Method of test	
6.1.12.4.1	Initial conditions	
6.1.12.4.2		
6.1.12.5	Acceptance criteria	
6.1.13	Entry of PIN2 on multi-verification capable UICCs	
6.1.13.1	Definition and applicability	
6.1.13.2	Conformance requirement	
6.1.13.3	Test purpose	
6.1.13.4	Method of test	
6.1.13.4.1	Initial conditions	
6.1.13.4.2		
6.1.13.5	Acceptance criteria	
6.1.14	Change of PIN2 on multi-verification capable UICCs	
6.1.14.1	Definition and applicability	
6.1.14.2	Conformance requirement	
6.1.14.3	Test purpose	
6.1.14.4	Method of test	
6.1.14.4.1	Initial conditions	
6.1.14.4.2		
6.1.14.5	Acceptance criteria	
6.1.15	Unblock PIN2 on multi-verification capable UICCs	
6.1.15.1	Definition and applicability	
6.1.15.2	Conformance requirement	
6.1.15.3	Test purpose	
6.1.15.4	Method of test	
6.1.15.4.1	Initial conditions	
6.1.15.4.2		
6.1.15.5	Acceptance criterias	
6.1.16	Replacement of PIN with key reference "07"	
6.1.16.1	Definition and applicability	
6.1.16.2	Conformance requirement	
6.1.16.3	Test purpose	
6.1.16.4	Method of test	
6.1.16.4.1	Initial conditions	
6.1.16.4.2		
6.1.16.5	Acceptance criteria	
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	
6.2.1.2	Conformance requirement	
6.2.1.3	Test purpose	
6.2.1.4	Method of test	
6.2.1.4.1	Initial conditions	
6.2.1.4.2	Procedure	
6.2.1.5	Acceptance criteria	
6.2.2	Terminal and USIM with FDN disabled	
6.2.2.1	Definition and applicability	
6222	Conformance requirement	62

6.2.2.3	Test purpose	62
6.2.2.4	Method of test	63
6.2.2.4.1	Initial conditions	63
6.2.2.4.2	Procedure	63
6.2.2.5	Acceptance criteria	63
6.2.3	Enabling, disabling and updating of FDN	63
6.2.3.1	Definition and applicability	
6.2.3.2	Conformance requirement	
6.2.3.3	Test purpose	
6.2.3.4	Method of test	
6.2.3.4.1	Initial conditions	
6.2.3.4.2	Procedure	
6.2.3.5	Acceptance criteria	
6.3	Void	
6.4	Advice of charge (AoC) handling	
6.4.1	AoC not supported by USIM	
6.4.1.1	** *	
6.4.1.1	Definition and applicability	
	Conformance requirement	
6.4.1.3	Test purpose	
6.4.1.4	Method of test	
6.4.1.4.1	Initial conditions	
6.4.1.4.2	Procedure	
6.4.1.5	Acceptance criteria	
6.4.2	Maximum frequency of ACM updating	
6.4.2.1	Definition and applicability	66
6.4.2.2	Conformance requirement	66
6.4.2.3	Test purpose	66
6.4.2.4	Method of test	66
6.4.2.4.1	Initial conditions	66
6.4.2.4.2	Procedure	
6.4.2.5	Acceptance criteria	
6.4.3	Call terminated when ACM greater than ACMmax	
6.4.3.1	Definition and applicability	
6.4.3.2	Conformance requirement	
6.4.3.3	Test purpose	
6.4.3.4	Method of test	
6.4.3.4.1	Initial conditions	
6.4.3.4.2	Procedure	
6.4.3.5		
	Acceptance criteria	
6.4.4	Response codes of increase command of ACM	
6.4.4.1	Definition and applicability	
6.4.4.2	Conformance requirement	
6.4.4.3	Test purpose	
6.4.4.4	Method of test	
6.4.4.4.1	Initial conditions	
6.4.4.4.2	Procedure	
6.4.4.5	Acceptance criteria	74
7 PI	LMN related tests	75
7.1	FPLMN handling	
7.1.1	Adding FPLMN to the Forbidden PLMN list	
7.1.1.1	Definition and applicability	
7.1.1.2	Conformance requirement	
7.1.1.3	Test purpose	
7.1.1.4	Method of test	76
7.1.1.4.1	Initial conditions	7 <i>6</i>
7.1.1.4.2	Procedure	77
7.1.1.5	Acceptance criteria	79
7.1.2	UE updating forbidden PLMNs	
7.1.2.1	Definition and applicability	
7.1.2.2	Conformance requirement	
7.1.2.2	Test purpose	81

7.1.2.4	Method of test	
7.1.2.4.1	Initial conditions	
7.1.2.4.2	Procedure	81
7.1.2.5	Acceptance criteria	82
7.1.3	UE deleting forbidden PLMNs	82
7.1.3.1	Definition and applicability	82
7.1.3.2	Conformance requirement	
7.1.3.3	Test purpose	
7.1.3.4	Method of test	83
7.1.3.4.1	Initial conditions	83
7.1.3.4.2	Procedure	
7.1.3.5	Acceptance criteria	
7.2	User controlled PLMN selector handling	
7.2.1	UE updating the User controlled PLMN selector list	
7.2.1.1	Definition and applicability	
7.2.1.2	Conformance requirement	86
7.2.1.3	Test purpose	86
7.2.1.4	Method of test	
7.2.1.4.1	Initial conditions	
7.2.1.4.2	Procedure	
7.2.1.5	Acceptance criteria	86
7.2.2	UE recognising the priority order of the User controlled PLMN selector list with the same access	
	technology	
7.2.2.1	Definition and applicability	
7.2.2.2	Conformance requirement	
7.2.2.3	Test purpose	
7.2.2.4	Method of test	
7.2.2.4.1	Initial conditions	
7.2.2.4.2	Procedure	
7.2.2.5	Acceptance criteria	
7.2.3	UE recognising the priority order of the User controlled PLMN selector list using a ACT preference	
7.2.3.1	Definition and applicability	
7.2.3.2	Conformance requirement	
7.2.3.2.1	Test purpose	
7.2.3.3	Method of test	
7.2.3.3.1	Initial conditions	
7.2.3.3.2	Procedure	
7.2.3.4	Acceptance criteria	
7.2.4	Void	
7.3	Operator controlled PLMN selector handling	
7.3.1	UE recognising the priority order of the Operator controlled PLMN selector list	
7.3.1.1	Definition and applicability	
7.3.1.2	Conformance requirement.	
7.3.1.3	Test purpose	
7.3.1.4	Method of test	
7.3.1.4.1 7.3.1.4.2	Initial conditions	
7.3.1.4.2	Procedure	
7.3.1.3 7.3.2	Acceptance criteria	92
1.3.2		0.6
7.3.2.1	PLMN selector list	
7.3.2.1	Conformance requirement	
7.3.2.2	Test purpose	
7.3.2.3	Method of test	
7.3.2.4	Initial conditions	
7.3.2.4.1	Procedure	
7.3.2.4.2	Acceptance criteria	
7.3.2.3 7.4	Higher priority PLMN search handling	
7.4.1	UE recognising the search period of the Higher priority PLMN	
7.4.1 7.4.1.1	Definition and applicability	
7.4.1.2	Conformance requirement.	
7.4.1.2 7 4 1 3	Test nurnose	رو QC

7.4.1.4	Method of test	
7.4.1.4.1	Initial conditions	
7.4.1.4.2	Procedure	
7.4.1.5	Acceptance criteria	
7.4.2	GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN	
7.4.2.1	Definition and applicability	
7.4.2.2	Conformance requirement	
7.4.2.3	Test purpose	
7.4.2.4	Method of test	
7.4.2.4.1	Initial conditions	103
7.4.2.4.2	Procedure	104
7.4.2.5	Acceptance criteria	
7.5	Void	107
8 Si	ubscription independent tests	107
8.1	Phone book procedures	
8.1.1	Recognition of a previously changed phonebook	
8.1.1.1	Definition and applicability	
8.1.1.2	Conformance requirement	
8.1.1.3	Test purpose	
8.1.1.4	Method of test	
8.1.1.4.1	Initial conditions	
8.1.1.4.1	Procedure	
8.1.1.5		
	Acceptance criteria	
8.1.2 8.1.2.1	Update of the Phonebook Synchronisation Counter (PSC)	
8.1.2.1	Definition and applicability	
	Conformance requirement	
8.1.2.3 8.1.2.4	Test purpose	
	Method of test	
8.1.2.4.1	Initial conditions	
8.1.2.4.2	Procedure	
8.1.2.5	Acceptance criteria	
8.2	Short message handling report	
8.2.1 8.2.1.1	Correct storage of a SM on the USIM	
	Definition and applicability	
8.2.1.2	Conformance requirement	
8.2.1.3	Test purpose	
8.2.1.4	Method of test	
8.2.1.4.1	Initial conditions	
8.2.1.4.2	Procedure	
8.2.1.5	Acceptance criteria	
8.2.2	Correct reading of a SM on the USIM	
8.2.2.1	Definition and applicability	
8.2.2.2	Conformance requirement	
8.2.2.3	Test purpose	
8.2.2.4	Method of test	
8.2.2.4.1	Initial conditions	
8.2.2.4.2	Procedure	
8.2.2.5	Acceptance criteria	
8.3	MMS related tests	
8.3.1	UE recognising the priority order of MMS Issuer Connectivity Parameters	
8.3.1.1	Definition and applicability	
8.3.1.2	Conformance requirement	
8.3.1.3	Test purpose	
8.3.1.4	Method of test	
8.3.1.4.1	Initial conditions	
8.3.1.4.2	Procedure	
8.3.1.5	Acceptance criteria	
8.3.2	UE recognising the priority order of MMS User Connectivity Parameters	
8.3.2.1	Definition and applicability	
8.3.2.2	Conformance requirement	
8323	Test purpose	123

8.3.2.4	Method of test	124
8.3.2.4.1	Initial conditions	
8.3.2.4.2	Procedure	128
8.3.2.5	Acceptance criteria	128
8.3.3	UE recognising the priority order of MMS Issuer Connectivity Parameters over the MMS U	ser
	Connectivity Parameters	128
8.3.3.1	Definition and applicability	128
8.3.3.2	Conformance requirement	129
8.3.3.3	Test purpose	
8.3.3.4	Method of test	
8.3.3.4.1	Initial conditions	129
8.3.3.4.2	Procedure	135
8.3.3.5	Acceptance criteria	135
8.3.4	Usage of MMS notification	135
8.3.4.1	Definition and applicability	135
8.3.4.2	Conformance requirement	135
8.3.4.3	Test purpose	136
8.3.4.4	Method of test	136
8.3.4.4.1	Initial conditions	136
8.3.4.4.2	Procedure	140
8.3.4.5	Acceptance criteria	140
Annex A	(informative): Change history	142
History		143

Foreword

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

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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 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 (Universal IC Card)-Terminal Interface Conformance Test Specification between the 3rd Generation Terminal and USIM (Universal Subscriber Identity Module) as an application on the UICC and the Terminal for 3G telecom 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 applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[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 Release 4: "UICC-Terminal interface; Physical and logical characteristics".
[6]	3GPP TS 22.011: "Service accessibility".
[7]	3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
[8]	3GPP TS 22.024: "Description of Charge Advice Information (CAI)".
[9]	3GPP TS 23.086: "Advice of Charge (AoC) Supplementary Service - Stage 2".
[10]	3GPP TS 24.086: "Advice of Charge (AoC) Supplementary Service - Stage 3".
[11]	3GPP TS 22.101: "Service aspects; Service principles".
[12]	3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".
[13]	3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".
[14]	3GPP TS 23.003: "Numbering, Addressing and Identification".
[15]	3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".
[16]	3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core Network protocols; Stage 3".

[17]	3GPP TS 24.080: "Mobile radio Layer 3 supplementary service specification; Formats and coding".
[18]	3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".
[19]	3GPP TS 21.111: "USIM and IC card requirements".
[20]	3GPP TS 25.331 "Radio Resource Control (RRC); Protocol Specification"
[21]	3GPP TS 34.108 "Common test environments for User Equipment (UE) conformance testing"
[22]	3GPP TS 51.010-1 "Mobile Station (MS) conformance specification; Part1: Conformance specification"
[23]	3GPP TS 23.140 "Multimedia Messaging Service (MMS); Functional description; Stage 2"

3 Definitions, symbols, abbreviations and coding

3.1 Definitions

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

Application DF (ADF): entry point to an application

access conditions: set of security attributes associated with a file

access technology: Radio Access Technology of the Terminal (e.g. UTRAN or GSM)

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

application protocol: set of procedures required by the application

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

current directory: latest MF or DF or ADF selected

current EF: latest EF selected

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

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

directory: general term for MF, DF and ADF

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

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

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

function: function contains a command and a response pair

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

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

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

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

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

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

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

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

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

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

User Equipment (UE): terminal with one or several UMTS Subscriber Identity Module(s) (USIM)

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

3.2 Symbols

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

bx Bit x of byte (leftmost bit is MSB)

Bn Byte No. n

3.3 Abbreviations

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

3G 3rd Generation

3GPP 3rd Generation Partnership Project

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

AoC Advice of Charge

AoCC Advice of Charge Charging

APN Access Point Name ATR Answer To Reset

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

CCI Capability / Configuration Identifier

CCM Current Call Meter
CK Cipher key
CS Circuit switched
CN Core Network
DF Dedicated File
EF Elementary File

EMMI Electrical Man Machine Interface

Ext n Extension n

FDN Fixed Dialling Number FPLMN Forbidden PLMN

GSM Global System for Mobile communications

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
MSB Most Significant Bit
NAS Non Acess Stratum
NPI Numbering Plan Identifier
OFM Operational Feature Monitor
OSI Open System Interconnection

PS Packet switched
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
SS System Simulator (GSM)

SM Short Message

SMS Short Message Service
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

UTRAN UMTS Terrestrial Radio Access Network

VPLMN Visitor PLMN

3.4 Coding Conventions

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

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

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

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

3.5 Generic procedures for UTRAN

If a test case contains the statement "This test applies to Terminals accessing UTRAN", the procedures defined in 3GPP TS 34.108 [21], subclause 7.2 shall be the basis for all performed procedures during the test. The procedures in

subclause 7.2 describe the default behaviour of a conformant UE regarding the specified protocols to be used for UTRAN and the required procedures from the NAS.

4 Default Values

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

The following sequence of tests confirms:

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

All tests apply to the USIM application on the UICC.

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

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

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

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 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: В1 B2 **B**3 B4 **B**5 B6 B7 B8 B9 B10 B11 Hex FF FF FF FF 42 16 80 00 01 FF 00

4.1.1.4 EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 0x

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: **B**1 B2 **B**3 **B16 B17 B18** B30 **B31** B32 **B33** Hex Ωx XX XX XX XXXXXXXX XX XX

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

Logically: Key Set Identifier KSI: 0x

Ciphering Keys CK: xx Integrity Keys IK: xx

Coding: В1 B2 ВЗ B16 B17 B18 **B31** B32 **B33** Hex 0x XX XX XX XX ΧХ ΧХ XX XX

4.1.1.6 EF_{ACC} (Access Control Class)

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

4.1.1.7 EF_{FPLMN} (Forbidden PLMNs)

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

Logically: PLMN1: 234 001 (MCC MNC)

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

Coding: В1 B2 ВЗ B4 В5 В6 В7 В8 В9 B10 B11 B12 00 00 34 00 Hex 32 14 32 24 32 32 44 00

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

4.1.1.8 EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available Fixed dialling numbers available

Barred dialling numbers available The GSM Access available

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

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

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

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

4.1.1.9 EF_{EST} (Enable Service Table)

Logically: Fixed Dialling Numbers (FDN) disabled.

Barred Dialling Numbers (BDN) disabled.

APN Control list (ACL) disabled

Coding: B1

binary 0000 0000

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

4.1.1.10 EF_{ADN} (Abbreviated Dialling Number)

Logically:

At least 10 records, each non-empty record unique.

Record 1: Length of alpha identifier: 32 characters;

Alpha identifier: "ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEF";

Length of BCD number: "03";

TON and NPI: Telephony and Unknown;

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

Record 1:

В1 Coding: B2 **B**3 **B32 B33 B34 B35 B36 B37 B38 B39** B46 41 42 46 0.3 81 F3 FF FF FF FF Hex 43 21

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

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

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

1st ACT: **UTRAN** 2nd PLMN: 244 081 2nd ACT: **GSM** 3rd PLMN: 244 082 3rd ACT: **UTRAN** 4th PLMN: 244 082 4th ACT: **GSM** 5th PLMN: 244 003 5th ACT: **UTRAN** 6th PLMN: 244 004 6th ACT: **UTRAN** 7th PLMN: 244 005 7th ACT: **UTRAN** 8th PLMN: 244 006 8th ACT: **UTRAN** 9th PLMN: 244 007 9th ACT: **UTRAN** 10th PLMN: 244 008 10th ACT: **UTRAN** 11th PLMN: 244 009 11th ACT: **UTRAN** 12th PLMN: 244 010

UTRAN

12th ACT:

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	94	00	80	00	42	04	10	80	00

4.1.1.12 EF_{OPLMNwACT} (Operator Controlled PLMN Selector with Access Technology)

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

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

1st ACT: **UTRAN** 2nd PLMN: 254 001 2nd ACT: **GSM** 3rd PLMN: 254 002 3^{rd} ACT: **UTRAN** 4th PLMN: 254 003 4th ACT: **UTRAN** 5th PLMN: 254 004 5th ACT: **UTRAN** 6th PLMN: 254 005 6th ACT: **UTRAN** 7th PLMN: 254 006 7th ACT: **UTRAN** 8th PLMN: 254 007 8^{th} ACT:

UTRAN

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

4.1.1.13 Void

PIN 4.1.1.14

Key reference: 01

Logically: 2468

Coding: B2 В3 B5 **B**1 B4 В6 B7 B8 FF FF Hex 32 34 36 38

4.1.1.15 PIN₂

Key reference: 81

Logically: 3579

Coding: В1 B2 В3 В4 **B**5 В6 B7 **B8** Hex 33 35 37 39 FF FF FF FF

4.1.1.16 Unblock PIN

Key reference: 01

Logically: 13243546

Coding: В1 B2 В3 B4 **B5** B6 B7 **B8** Hex 31 33 32 34 33 35 34 36

4.1.1.17 Unblock PIN2

Key reference: 81

Logically: 08978675

Coding: В1 B2 В3 B4 **B**5 **B6** В7 B8 30 37 36 37 35 Hex 38 39 38

4.1.1.18 Other Values of the USIM

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

4.1.1.19 EF_{PSLOCI} (Packet Switch Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 RAI-LAC: 0001 RAI-RAC: 05

P-TMSI: "FF....FF"

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

Coding: B1 B2 В3 B4 **B**5 B6 В7 B8 В9 B10 B11 Hex FF FF FF FF FF FF FF 42 16 80 00

Coding: B12 B13 B14 Hex 01 05 00

4.1.1.20 Universal PIN

Key reference: 11

Logically: 2839

Coding: B2 В3 B4 **B5** B6 В7 В8 FF FF FF FF Hex 32 38 33 39

4.1.1.21 Unblock Universal PIN

Key reference: 11

Logically: 0203040506

В5 В1 **B**3 B4 B6 **B7 B8** Coding: R2 32 34 35 Hex 30 30 33 30 30

4.2 Definition of FDN UICC

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

4.2.1 Values of the EF's (FDN UICC)

4.2.1.1 EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

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

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

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

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

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

4.2.1.2 EF_{EST} (Enable Service Table)

Logically: Fixed Dialling Numbers enabled.

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

Coding: B1

binary 0000 0001

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

4.2.1.3 EF_{FDN} (Fixed Dialling Numbers)

Logically:

Record 1: Length of alpha identifier: 6 characters;

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

TON and NPI: Telephony and International;

Dialled number: +1357924680;

CCI: None; Ext2: None.

Coding for record 1:

B1 B2 **B3** B4 **B5** B6 B7 **B8 B9 B10 B11 B12 B13** Hex 46 44 4E 31 31 31 06 91 31 75 29 64 80

B14 B15 B16 B17 B18 B19 B20 FF FF FF FF FF FF

Record 2: Length of alpha identifier: 6 characters;

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

TON and NPI: Telephony and Unknown;

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

Coding for record 2:

B2 B1 В3 **B4 B**5 **B6 B7 B8** B9 B10 B11 B12 B13 Hex 46 44 4E 32 32 32 04 81 42 86 F0 FF FF B14 B15 B16 B17 B18 B19 B20 FF FF FF FF FF FF

Record 3: Length of alpha identifier: 6 characters;

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

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

CCI: None; Ext2: None.

Coding for record 3:

B1 B2 ВЗ B4 **B**5 В6 В8 В9 B10 B11 B12 B13 **B7** Hex 46 44 4E 33 33 33 0B 91 21 43 65 87 09 B17 B14 B15 B16 B18 B19 B20 21 43 65 87 09 FF FF

4.2.1.4 EF_{ECC} (Emergency Call Codes)

Logically: Emergency call code: "122";

Emergency call code alpha identifier: "TEST";

Emergency call Service Category: Mountain Rescue.

Coding: В1 B2 В3 B4 **B5** B6 B7 B8 FF Hex 21 F2 54 45 53 10 54

4.2.1.5 Other Values of the USIM

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

4.3 Void

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. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

This test applies to Terminals accessing UTRAN.

5.1.1.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure the UE shall send PAGING RESPONSE containing the IMSI of the USIM, which is less than the maximum length.

Reference:

- TS 31.102, subclauses 5.1.1 and 5.2.2;
- TS 24.008, subclause 10.5.1.4;
- TS 102 221, 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 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.

5.1.1.4.2 Procedure

- 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.

5.1.1.5 Acceptance criteria

After step b) the UE shall send PAGING RESPONSE to the USS 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 can be consistence of a 2 digit MNC. The IMSI is stored in the USIM and read during the UICC-Terminal initialisation procedure.

This test applies to Terminals accessing UTRAN.

5.1.2.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure the UE shall send PAGING RESPONSE containing the IMSI of the USIM.

Reference:

- TS 31.102, subclause 4.2.18;
- TS 24.008, 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 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"

B2 ВЗ **B**5 Coding: В1 B4 B6 B7 B8 B9 B10 **B11** FF FF FF FF 42 F6 18 00 01 00 Hex FF

EF_{IMSI} (IMSI)

Logically: 246813579

Coding: B2 В3 **B5 B9** B4 B6 B7 **B8** 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.

5.1.2.4.2 Procedure

- 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.

5.1.2.5 Acceptance criteria

After step b) the UE shall send PAGING RESPONSE to the USS 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. 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, 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.

This test applies to Terminals accessing UTRAN and supporting CS.

5.1.3.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure the UE shall send PAGING RESPONSE containing the TMSI stored in 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 message.

Reference:

- TS 31.102, subclauses 5.1.1 and 5.2.2;
- TS 24.008, subclause 10.5.1.4.
- TS 25.331, 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 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"

B3 Coding: B1 R2 R4 **B**5 **B6** B7 B8 B9 B10 **B11** Hex 0021 42 NΩ FF 00

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

5.1.3.4.2 Procedure

- 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.

5.1.3.5 Acceptance criteria

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

5.1.4 UE identification by "long" TMSI

5.1.4.1 Definition and applicability

The TMSI is temporarily used for identification of the UE by UTRAN. 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, subclause 2.4, a TMSI always consists of 8 digits (4 bytes). With this tests the handling of a new assigned TMSI will be tested. The term "long" TMSI is used in order to distinguish between the tests as defined in subclauses 5.1.3 and 5.1.4. This test applies to Terminals accessing UTRAN and supporting CS.

5.1.4.2 Conformance requirement

After successful completion of the RRC Connection Establishment procedure the UE shall send PAGING RESPONSE containing the correct TMSI stored in 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 message.

Reference:

- TS 31.102, subclauses 5.1.1 and 5.2.2;
- TS 24.008, subclause 10.5.1.4.
- TS 25.331, subclause 10.3.1.17

5.1.4.3 Test purpose

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

5.1.4.4 Method of test

5.1.4.4.1 Initial conditions

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

The USS 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: "21430000"

Coding: В1 B2 В3 B4 **B**5 B6 **B7 B8 B9** B10 B11 43 00 80 00 FF Hex 21 00 42 16 01 00

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

5.1.4.4.2 Procedure

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

5.1.4.5 Acceptance criteria

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

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

5.1.5.1 Definition and applicability

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

This test applies to Terminals accessing UTRAN and supporting CS.

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

5.1.5.2 Conformance requirement

1) After successful completion of the RRC Connection Establishment procedure the UE shall send PAGING RESPONSE containing the correct IMSI stored in the USIM.

Reference:

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

Reference:

- TS 31.102, subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 subclause 10.1.
- TS 24.008 subclause 4.3.2.4.
- 3) After call termination the Terminal shall have updated EFLOCI.

Reference:

• TS 102 221, subclause 14.1.2.

5.1.5.3 Test purpose

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

5.1.5.4 Method of test

5.1.5.4.1 Initial conditions

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

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

- Attach/detach: disabled.

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

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{IMSI} (IMSI)

Logically: 246081111111111

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex									

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

5.1.5.4.2 Procedure

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

5.1.5.5 Acceptance criteria

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "32547698"

Coding: B1 R2 **B**3 R4 B5 **B6** B7 **B8** B9 B10 **B11** Hex 54 76 98 16 80 00 ХX ХX хx

EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 02

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

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

5.2 Access Control handling

5.2.1 Access Control information handling

5.2.1.1 Definition and applicability

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

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

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

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

This test applies to Terminals accessing UTRAN and supporting CS.

5.2.1.2 Conformance requirement

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

Reference:

- TS 31.102, subclause 5.1.1.
- 2. If the UE is a member of at least one access class which corresponds to the permitted classes as signalled over the air interface, and the access class is applicable in the serving network, access attempts are allowed. Otherwise access attempts are not allowed.
- 3. If access class 10 is barred, then the UEs of classes 0 9 and the Terminals without UICCs shall not make emergency call attempts.
- 4. UE of classes 11 15 are not allowed to make emergency call attempts if access class 10 and the relevant access class(es) between 11 and 15 are barred. Otherwise, emergency call attempts are allowed irrespective of the conditions of access class 10.

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

Reference:

• TS 22.011, subclauses 4.3 and 4.4.

5.2.1.3 Test purpose

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

The tests verify Terminal performance for the following:

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

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

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

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

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

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

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

5.2.1.4 Method of test

5.2.1.4.1 Initial conditions

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

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): see table 5-1.

- Access control: see table 5-1.

- RACH: see table 5-1.

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

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

5.2.1.4.2 Coding details

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

Logica	ally:	IMSI:	"2	46081357	79"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	75	F9	FF	FF
Logica	ally:	IMSI:	"2	4608135x	:9"				
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	06	21	64	80	31	x5	F9	FF	FF

Access Control class EF_{ACC}: Data field "6F 78"

Reference:

• See TS 31.102 [4].

NETWORK (USS)

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

Reference

TS 25.331 clause 10.3.2.1

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

5.2.1.4.3 Procedure

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

5.2.1.5 Acceptance criteria

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

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

Table 5-1

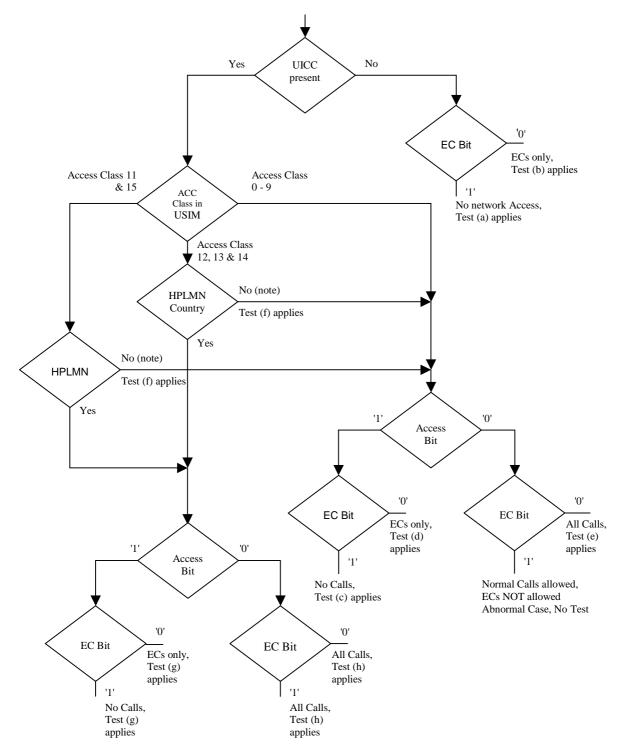
USIM				Test			
	IMSI		RACH SIB3: Access Class Barred List	Informative: Cell Barred for:	BCCH/ LAI	Normal Call	Results Emergency Call
		Access	AC15-AC08	Emergency Call	MCC		
Took (a)	No IIIOO in	Class	AC07-AC00	Normal Call	MNC	Na	No
Test (a)	No UICC in Terminal	N/A	0000 0100	Yes No	234 001	No	No
Test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

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

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

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

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



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

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

ECs: Emergency Calls.

EC BIT: Access Class 10 defined in TS 22.011 clause 4.4.

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

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

Figure 5-1: Access control information

6 Security related Tests

6.1 PIN handling

6.1.1 Entry of PIN

6.1.1.1 Definition and applicability

The PIN is a number used to authenticate the user to the UICC for security. Entry of the correct PIN allows PIN-protected data to be accessed over the UICC-Terminal interface.

This test applies to all 3G Terminals.

6.1.1.2 Conformance requirement

Following insertion of the UICC and switching on the UE, the Terminal shall check the state of the PIN. If the PIN is enabled, the Terminal asks the user for PIN verification.

The VERIFY PIN function verifies the PIN presented by the Terminal to the UICC.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.9;
- TS 31.102[4], clause 6;
- TS 22.030[12], subclause 6.6.1.

6.1.1.3 Test purpose

- 1) To verify that the PIN verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.1.4 Method of test

6.1.1.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

6.1.1.4.2 Procedure

- a) The Terminal is powered on.
- b) When the UE is in the "PIN check" mode, the sequence "2468#" shall be entered.

6.1.1.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01".
- 2) After step b) the UE shall give an indication "OK", following a successful execution of the command.

6.1.2 Change of PIN

6.1.2.1 Definition and applicability

The PIN may be changed by the user, by entering the old and new PIN. The length of the PIN is between 4 and 8 digits.

This test applies to all 3G Terminals.

6.1.2.2 Conformance requirement

The Terminal shall support the change of PIN procedure as defined in TS 102 221[5] subclause 11.10.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.10;
- TS 31.102[4], clause 6;
- TS 22.030[12], subclause 6.6.2.

6.1.2.3 Test purpose

- 1) To verify that the PIN substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.

6.1.2.4 Method of test

6.1.2.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled.

The default UICC is used.

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

6.1.2.4.2 Procedure

- a) Enter "**04*2468*01234567*01234567#".
- b) The UE is switched off and on.
- c) When the UE is in the "PIN check" mode, the sequence "2468#" shall be entered.
- d) The UE is switched off and on.
- e) When the UE is in the "PIN-check", mode the sequence "01234567#" shall be entered.

6.1.2.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN command to the UICC, with the parameter P2 set to "01".
- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN is accepted.
- 3) After step c), the UE shall give an indication that the entered PIN is not accepted.
- 3) After step e), the UE shall give an indication "OK".

6.1.3 Unblock PIN

6.1.3.1 Definition and applicability

After three consecutive wrong entries of the PIN, the PIN shall become blocked. The Unblock PIN command is used to unblock the PIN. This function may be performed whether or not the PIN is blocked.

This test applies to 3G Terminals.

6.1.3.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in TS 102 221[5] subclause 11.13.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.13;
- TS 31.102[4], clause 6;
- TS 22.030[12], subclause 6.6.3.

6.1.3.3 Test purpose

- 1) To verify that the PIN unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.3.4 Method of test

6.1.3.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used.

6.1.3.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**05*13243546*1234*1234#"
- c) The Terminal is powered off and on.
- d) Enter the new PIN: "1234#".
- e) The Terminal is powered off and on.
- f) Enter a wrong PIN three times.
- g) Enter "**05*13243546*2468*2468#".
- h) The Terminal is powered off and on.
- i) Enter the new PIN: "2468#".

6.1.3.5 Acceptance criteria

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "01".
- 2) After step d), the Terminal shall indicate that the PIN has been accepted.
- 3) After step f), the Terminal shall indicate that the PIN has been blocked.

- 4) After step g), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "01".
- 5) After step j), the Terminal shall indicate that the PIN has been accepted.

6.1.4 Entry of PIN2

6.1.4.1 Definition and applicability

The PIN2 is a number used to authenticate the user to the UICC for security. Entry of the correct PIN2 allows PIN2-protected data to be accessed over the UICC-Terminal interface.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN).

6.1.4.2 Conformance requirement

Before allowing the access to PIN2 protected data, the Terminal shall ask the user for PIN2 verification. Only after presenting the PIN2, the user shall get access to these data.

The VERIFY PIN function verifies the PIN2 presented by the Terminal to the UICC.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.9;
- TS 31.102[4], clause 6;
- TS 22.030[12], subclause 6.6.1.

6.1.4.3 Test purpose

- 1) To verify that the PIN2 verification procedure is performed by the Terminal correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.4.4 Method of test

6.1.4.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

6.1.4.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN)
- c) When the UE is in the "PIN2 check" mode, the sequence "3579#" shall be entered.

6.1.4.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "81".
- 2) After step b) the UE shall give an indication "OK", following a successful execution of the command.

6.1.5 Change of PIN2

6.1.5.1 Definition and applicability

The PIN2 may be changed by the user, by entering the old and new PIN2. The length of the PIN2 is between 4 and 8 digits.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN)

6.1.5.2 Conformance requirement

The Terminal shall support the change of PIN2 procedure as defined in TS 102 221[5] subclause 11.1.10.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.10;
- TS 31.102[4], clause 6;
- TS 22.030[2], subclause 6.6.2.

6.1.5.3 Test purpose

- 1) To verify that the PIN2 substitution procedure is performed correctly by the Terminal.
- 2) To verify that the basic public MMI string is supported.

6.1.5.4 Method of test

6.1.5.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN2 enabled.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

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

6.1.5.4.2 Procedure

- a) Enter "**042*3579*12345678*12345678#".
- b) The UE is switched off and on and the correct PIN is entered.
- c) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- d) When the UE is in the "PIN2 check" mode, the sequence "3579#" shall be entered.
- e) The UE is switched off and on and the correct PIN is entered.
- f) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- g) When the UE is in the "PIN2-check", mode the sequence "12345678#" shall be entered.

6.1.5.5 Acceptance criteria

1) After step a), the Terminal shall send a CHANGE PIN2 command to the UICC, with the parameter P2 set to "81".

- 2) Following the successful execution of the command, the UE shall give an indication that the new PIN2 is accepted.
- 3) After step d), the UE shall give an indication that the entered PIN2 is not accepted.
- 3) After step g), the UE shall give an indication "OK".

6.1.6 Unblock PIN2

6.1.6.1 Definition and applicability

After three consecutive wrong entries of the PIN2, the PIN2 shall become blocked. The Unblock PIN2 command is used to unblock the PIN2. This function may be performed whether or not the PIN2 is blocked.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN)

6.1.6.2 Conformance requirement

The Terminal shall support the Unblock PIN2 command, as defined in TS 102 221[5] subclause 11.1.13.

Reference:

- TS 102 221[5], subclauses 9 and 11.1.13;
- TS 31.102[4], clause 6;
- TS 22.030[12], subclause 6.6.3.

6.1.6.3 Test purpose

- 1) To verify that the PIN2 unblocking procedure is performed correctly.
- 2) To verify that the basic public MMI string is supported.

6.1.6.4 Method of test

6.1.6.4.1 Initial conditions

The Terminal is connected to the UICC simulator.

The default UICC is used.

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used.

6.1.6.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**052*089675*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*089675*3579*3579#".
- i) The Terminal is powered off and on and the correct PIN is entered.
- k) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- 1) Enter the new PIN2: "3579#".

6.1.6.5 Acceptance criterias

- 1) After step b), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "81".
- 2) After step e), the Terminal shall indicate that the PIN2 has been accepted.
- 3) After step h), the Terminal shall indicate that the PIN2 has been blocked.
- 4) After step i), the Terminal shall send an UNBLOCK PIN command to the UICC, with parameter P2 = "81".
- 5) After step 1), the Terminal shall indicate that the PIN2 has been accepted.

6.1.7 Replacement of PIN

6.1.7.1 Definition and applicability

The Universal PIN may be used to replace a PIN used to authenticate the user to the UICC for security. In this case entry of the correct Universal PIN allows PIN-protected data to be accessed over the UICC-Terminal interface. TS 102 221[5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

This test applies to all 3G Terminals.

6.1.7.2 Conformance requirement

The Terminal shall support the usage of the Universal PIN as replacement PIN and the replacement procedure as defined in TS 102 221 [5], subclause 11.1.11, as well as the procedure to disable the replacement defined in TS 102 221 [5], subclause 11.1.12.

Reference:

- TS 102 221 [5], subclauses 9, 11.1.11 and 11.1.12;
- TS 31.102 [4], clause 6;

6.1.7.3 Test purpose

- 1) To verify that the PIN replacement is supported by the Terminal correctly.
- 2) To verify that the PIN replacement procedure is performed by the Terminal correctly.
- 3) To verify that the procedure to disable the PIN replacement is performed by the Terminal correctly.

6.1.7.4 Method of test

6.1.7.4.1 Initial conditions

The Terminal is connected to the UICC simulator with the PIN enabled, and powered off.

The default UICC is used.

6.1.7.4.2 Procedure

a) The Terminal is powered on.

- b) When the Terminal is in the "PIN check" mode, the sequence "2468#" shall be entered.
- c) The user shall initiate an MMI dependent procedure to replace the PIN by the Universal PIN.
- d) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2468#" shall be entered.
- e) The correct UPIN is entered.
- f) The user shall initiate an MMI dependent procedure to disable the replacement of the PIN by the Universal PIN.
- g) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2839#" shall be entered.
- h) The correct PIN is entered.

6.1.7.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01".
- 2) After step c), the Terminal shall send a DISABLE PIN command to the UICC, with parameter P1="91" and P2="01".
- 3) After step d) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 4) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.
- 5) After step f), the Terminal shall send an ENABLE PIN command to the UICC, with parameter P2 = "01".
- 6) After step g) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 7) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "01" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.

6.1.8 Change of Universal PIN

6.1.8.1 Definition and applicability

The Universal PIN may be changed by the user, by entering the old and new Universal PIN. The length of the Universal PIN is between 4 and 8 digits.

This test applies to all 3G Terminals.

6.1.8.2 Conformance requirement

The Terminal shall support the change of PIN procedure as defined in TS 102 221 [5], subclause 11.1.10.

Reference:

- TS 102 221 [5], subclauses 9 and 11.1.10;
- TS 31.102 [4], clause 6.

6.1.8.3 Test purpose

To verify that the PIN substitution procedure is performed correctly by the Terminal.

6.1.8.4 Method of test

6.1.8.4.1 Initial conditions

The Terminal is connected to a UICC or UICC simulator with the PIN enabled.

The default UICC is used with the following exception:

The Universal PIN is used as a replacement of the PIN.

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

6.1.8.4.2 Procedure

- a) The user shall initiate an MMI dependent procedure to change the Universal PIN to "01234567".
- b) The UE is switched off and on.
- c) When the UE is in the "PIN check" mode, the sequence "2839#" shall be entered.
- d) The UE is switched off and on.
- e) When the UE is in the "PIN-check", mode the sequence "01234567#" shall be entered.

6.1.8.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN command to the UICC, with the parameter P2 set to "11".
- 2) Following the successful execution of the command, the UE shall give an indication that the new (Universal) PIN is accepted.
- 3) After step c), the UE shall give an indication that the entered (Universal) PIN is not accepted.
- 4) After step e), the UE shall give an indication "OK".

6.1.9 Unblock Universal PIN

6.1.9.1 Definition and applicability

After three consecutive wrong entries of the PIN, the PIN shall become blocked. The Unblock PIN command is used to unblock the PIN. This function may be performed whether or not the PIN is blocked.

This test applies to all 3G Terminals.

6.1.9.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in TS 102 221 [5], subclause 11.13.

Reference:

- 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. TS 102 221[5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

This test applies to all 3G Terminals.

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:

• 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

Logica	ılly:	8642						
Coding: Hex	B1 38	B2 36	B3 34	B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock F	PIN							
Key refere	ence 07							
Logically:		645342	231					
Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2								
Key refere	ence 87							
Logica	ılly:	9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock F	PIN2							
Key refere	ence 87							
Logically:		576879	080					
Coding: Hex	B1 35	B2 37	B3 36	B4 38	B5 37	B6 39	B7 38	B8 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. TS 102 221[5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

This test applies to all 3G Terminals.

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:

- 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: B2 В3 B4 B6 B7 B8 Hex 38 36 34 32 FF FF FF FF

Unblock PIN

Key reference 07

Logically: 64534231

Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2								
Key reference 87								
Logically:		9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock I	PIN2							
Key reference 87								
Logica	Logically: 576879							

B4

38

B5

37

B6

39

B7

38

B8

30

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

В3

36

6.1.11.4.2 Procedure

B1

35

Coding:

Hex

- a) Enter "**04*8642*01234567*01234567#".
- b) The UE is switched off and on.

B2

37

- 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.
- 4) 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. TS 102 221[5] defines the range of "01" to "08" as key reference of the PIN on a multi-verification capable UICC.

This test applies to all 3G Terminals.

6.1.12.2 Conformance requirement

The Terminal shall support the Unblock PIN command, as defined in TS 102 221 [5], subclause 11.1.13.

Reference:

- 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

Logica	ılly:	8642						
Coding: Hex	B1 38	B2 36	B3 34	B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock I	PIN							
Key refere	ence 07							
Logica	ılly:	645342	231					
Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2								
Key refere	ence 87							
Logica	ılly:	9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock I	PIN2							
Key reference 87								
Logically:		576879	980					
Coding: Hex	B1 35	B2 37	B3 36	B4 38	B5 37	B6 39	B7 38	B8 30

6.1.12.4.2 Procedure

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**05*64534231*1234*1234#"
- c) The Terminal is powered off and on.
- d) Enter the new PIN: "1234#".
- e) The Terminal is powered off and on.
- f) Enter a wrong PIN three times.
- g) Enter "**05*64534231*8642*8642#".
- h) The Terminal is powered off and on.
- i) Enter the new PIN: "8642#".

6.1.12.5 Acceptance criteria

- 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.

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. TS 102 221[5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN).

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:

- TS 102 221[5], subclauses 9 and 11.1.9;
- TS 31.102 [4], clause 6;
- TS 22.030 [12], subclause 6.6.1.

6.1.13.3 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

Logica	ılly:	8642						
Coding: Hex	B1 38	B2 36	B3 34	B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock I	PIN							
Key refere	ence 07							
Logically:		64534	231					
Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2								
Key refere	ence 87							
Logica	ılly:	9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock I	PIN2							
Key refere	ence 87							
Logically:		57687	980					
Coding: Hex	B1 35	B2 37	B3 36	B4 38	B5 37	B6 39	B7 38	B8 30

NOTE: To perform the UPDATE FDN data (as described in the procedure below), the default FDN UICC may be used. In this case the above mentioned exceptions shall apply.

6.1.13.4.2 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. TS 102 221[5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN)

6.1.14.2 Conformance requirement

The Terminal shall support the change of PIN2 procedure as defined in TS 102 221 [5], subclause 11.1.10.

Reference:

- 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:

8642

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:

8	 			
Coding: Hex				B8 FF

Unblock PIN

Key reference 07

Logica	lly:	64534	4231					
Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	36	34	35	33	34	32	33	31

PIN₂

Coding:

Hex

Key reference 87

Logical	lly:	9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock PIN2								
Key reference 87								
Logical	lly:	576879	80					

B4

38

B5

37

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.

B6

39

B7

38

B8

30

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

В3

36

6.1.14.4.2 Procedure

В1

35

B2

37

- a) Enter "**042*9753*12345678*12345678#".
- b) The UE is switched off and on and the correct PIN is entered.
- c) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- d) When the UE is in the "PIN2 check" mode, the sequence "9753#" shall be entered.
- e) The UE is switched off and on and the correct PIN is entered.
- f) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- g) When the UE is in the "PIN2-check", mode the sequence "12345678#" shall be entered.

6.1.14.5 Acceptance criteria

- 1) After step a), the Terminal shall send a CHANGE PIN2 command to the UICC, with the parameter P2 set to "87".
- 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. TS 102 221[5] defines the range of "81" to "88" as key reference of the PIN2 on a multi-verification capable UICC.

This test applies to all 3G Terminals supporting a feature requiring PIN2 entry (such as e.g. AoC or FDN)

6.1.15.2 Conformance requirement

The Terminal shall support the Unblock PIN2 command, as defined in TS 102 221 [5], subclause 11.1.13.

Reference:

- 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:

64534231

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

Logica	lly:	8642					
Coding:	B1	B2	B4	B5	B6	B7	B8
Hex	38	36	32	FF	FF	FF	FF

Unblock PIN

Key reference 07
Logically:

Coding:	B1	B2	В3	B4	B5	B6	B7	B8
Hex	36	34	35	33	34	32	33	31

PIN2

Key reference 87

Logically:	9753				
Coding: B1 Hex 39			B5 FF	_	B8 FF

Unblock PIN2

Key reference 87

Logically: 57687980

B4 **B8** Coding: B1 B2 **B3 B**5 B6 B7 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

- a) The Terminal is powered on and the correct PIN is entered.
- b) Enter "**052*57687980*1234*1234#"
- c) The Terminal is powered off and on and the correct PIN is entered.
- d) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- e) Enter the new PIN2: "1234#".
- f) The Terminal is powered off and on and the correct PIN is entered.
- g) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- h) Enter a wrong PIN2 three times.
- i) Enter "**052*57687980*9753*9753#".
- j) The Terminal is powered off and on and the correct PIN is entered.
- k) The access to a PIN2 protected data field shall be performed (e.g. UPDATE FDN).
- 1) Enter the new PIN2: "9753#".

6.1.15.5 Acceptance criterias

- 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 1), 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.

This test applies to all 3G Terminals.

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

Reference:

• 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: Hex	B1 38	B2 36	B3 34	B4 32	B5 FF	B6 FF	B7 FF	B8 FF
Unblock F	'IN							
Key refere	ence 07							
Logica	ılly:	645342	231					
Coding: Hex	B1 36	B2 34	B3 35	B4 33	B5 34	B6 32	B7 33	B8 31
PIN2	PIN2							
Key reference 87								
Logically:		9753						
Coding: Hex	B1 39	B2 37	B3 35	B4 33	B5 FF	B6 FF	B7 FF	B8 FF
Unblock PIN2								
Key reference 87								
Logically:		576879	080					
Coding: Hex	B1 35	B2 37	B3 36	B4 38	B5 37	B6 39	B7 38	B8 30

6.1.16.4.2 Procedure

a) The Terminal is powered on.

- b) When the Terminal is in the "PIN check" mode, the sequence "8642#" shall be entered.
- c) The user shall initiate an MMI dependent procedure to replace the PIN by the Universal PIN.
- d) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "8642#" shall be entered.
- e) The correct Universal PIN is entered.
- f) The user shall initiate an MMI dependent procedure to disable the replacement of the PIN by the Universal PIN.
- g) The Terminal is powered off and on and when the Terminal is in "PIN check" mode the sequence "2839#" shall be entered.
- h) The correct PIN is entered.

6.1.16.5 Acceptance criteria

- 1) After step b) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07".
- 2) After step c), the Terminal shall send a DISABLE PIN command to the UICC, with parameter P1="91" and P2="07".
- 3) After step d) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 4) After step e) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "11" and after successful execution of the command the Terminal shall indicate that the PIN has been accepted.
- 5) After step f), the Terminal shall send an ENABLE PIN command to the UICC, with parameter P2 = "07".
- 6) After step g) the Terminal shall send a VERIFY PIN command to the UICC, with parameter P2 = "07" and after unsuccessful execution of the command the Terminal shall indicate that the PIN has not been accepted.
- 7) After step 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.

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting FDN and CS.

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 number stored in the Terminal except "112", "911" and the emergency numbers stored on the SIM/USIM.
- 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:

- TS 22.101[11], clauses 9 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.

6.2.1.3 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" and the emergency numbers stored on the SIM/USIM.
 - 6) To verify that the Terminal allows emergency call set-up using the emergency number stored in the UISM.
 - 7) To verify that the Terminal reads correctly the emergency service category.

6.2.1.4 Method of test

6.2.1.4.1 Initial conditions

The USS 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.

6.2.1.4.2 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 the emergency call code stored in the Terminal, but not "112", "911" nor one of the emergency numbers stored on the SIM/USIM..
- g) Using the MMI an emergency call set-up is attempted using either "112" or "911".
- 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 9.1, except "112" and "911", shall be used (i.e. "000", "08", "110", "118", "199", 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".
- 5) After step g) the UE shall send the emergency service category correctly as "Mountain Rescue".

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.

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting FDN and CS.

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:

- TS 22.101[11], clauses 9 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 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.

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting FDN and CS.

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:

• TS 22.101[11], clause 9 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 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		B2 44	_		_	_	B7 06	_	_	B10 56	B12 12	B13 F0
	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF	B19 FF	B20 FF					

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.

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

6.4.1.2 Conformance requirement

- An UE not supporting AoCC and in the outgoing call / U4 call delivered state, on receipt of a CONNECT message containing AoCC information shall acknowledge the CONNECT message but ignore and not acknowledge the AoCC information sent within the CONNECT.
- 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 xxx11

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

The generic call set up procedures defined in TS 34.108 [21], subclause 7.2.3.2.3 and 7.2.3.1.3 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 transmits CONNECT containing AoCC information.
- b) For an MO call in the U4 state the USS transmits FACILITY containing AoCC information.
- c) For an MT call in the U9 state the USS transmits FACILITY containing AoCC information.
- d) For an MO call in the U10 state the USS 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).

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

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
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx

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

EF_{ACM} (Accumulated call meter)

Logically: 50 units

EF_{ACMmax} (Accumulated call meter maximum)

Logically: 150 units

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".

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:

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		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		
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		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		DISCONNECT	
20	UE -> USS		
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents:

i) **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 TS 51.010-1 [22], in 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).

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

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);
- 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 then '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
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx

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

EF_{ACM} (Accumulated call meter)

Logically: 80 units

Coding: B1 B2 B3

binary 0000 0000 0000 0101 0000

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

EF_{ACMmax} (Accumulated call meter maximum)

Logically: 94 units

Coding: B1 B2 B3

binary 0000 0000 0000 0101 1110

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

Attach/detach: disabled.

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

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

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:

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2		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		
10		CALL PROCEEDING	
11		RADIO BEARER SETUP	To a supported channel type
12	UE -> USS	RADIO BEARER SETUP	
		COMPLETE	
13	USS -> UE	_	
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		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		DISCONNECT	
19	USS -> UE		
20		RELEASE COMPLETE	
21		RRC CONNECTION RELEASE	All connections of RRC are released.
22	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents:

i) **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 ACMmax, all current chargeable calls shall be terminated and no further calls may be made (except emergency calls).

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

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], subclause 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 then '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".

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 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) 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:

• TS 102 221[5], subclause 10.2.1.

Maximum Duration of Test:

3 minutes.

Expected Sequence:

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		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		DISCONNECT	
20	USS -> UE		
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE	
		COMPLETE	

Specific Message Contents:

i) **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

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 UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

7.1.1.2 Conformance requirement

- 1) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - 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 EFFPLMN 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, subclause 2.3;
- TS 31.102, 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 receipt of a LOCATION UPDATE REJECT message during registration on CS with the cause "PLMN not allowed" the Terminal shall update the EFFPLMN 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, subclause 3.2.2;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 3) 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, subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111 subclause 10.1.

7.1.1.3 Test purpose

- 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 transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 234/002/0001.
- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05.
- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{IMSI} (IMSI)

Logically: 246081111111111

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex	80	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 **B**3 B4 **B**5 B6 B7 B8 B9 **B10** B11 54 74 00 00 00 FF 32 76 98 32 00 Hex

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: B2 В3 B4 **B**5 В6 B8 **B9** B10 B11 **B**1 **B7** 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.

7.1.1.4.2 Procedure

a) The UE is powered on.

b) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The USS then resumes RF output on the BCCH.

c) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The USS then resumes RF output on the BCCH.

d) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The USS then resumes RF output on the BCCH.

e) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/007/0001

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

The USS then resumes RF output on the BCCH.

- f) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS 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 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.

The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/008/0001

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

The USS then resumes RF output on the BCCH.

- h) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- i) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
 - I. During registration on CS and Aafter receipt of a LOCATION UPDATINGE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATINGE ACCEPT to the UE 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): 234/008/000/05

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): 234/008/000/05

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.

7.1.1.5 Acceptance criteria

- 1) After each of the steps a) to d) the UE shall not attempt a LOCATION UPDATE and not a ATTACH procedure.
- 2) After step f) 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 h) 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.
- 4) After step i) the UE shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 5) After step k) the USIM shall contain the following values:

EF_{FPLMN} (Forbidden PLMNs)

Logica	lly:	PLMN	V1:	234 002 (1	MCC MI	NC)						
		PLMN	J 2:	234 003								
		PLMN	N 3:	234 004								
		PLMN	J 4:	234 005								
		PLMN	N5:	234 006								
		PLMN	N6:	234 007								
Coding:	B1	B2	В3	В4	B5	B6	В7	В8	В9	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 UEs supporting (CS and PS) or (CS only):

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 008

TMSI: "43658709"

B2 Coding: **B**1 **B3 B4 B**5 B6 **B7** B8 **B9 B10** B11 43 87 09 32 84 00 00 Hex 65 XX ХX XX

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234

RAI-MNC: 008

P-TMSI: "43658709"

Coding: B2 **B**3 B1 B4 **B**5 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

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 UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

7.1.2.2 Conformance requirement

Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:

- I. after the receipt of a LOCATION UPDATING REJECT message during registration on CS with the cause "PLMN not allowed" the UE shall update the EFFPLMN 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 EFFPLMN 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 EFFPLMN in the USIM.

Reference:

- TS 22.011, subclause 3.2.2.4.
- TS 31.102, 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 transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{FPLMN} (Forbidden PLMNs)

Logica	lly:	PLMN PLMN PLMN PLMN PLMN PLMN	2: er 3: 23 4: 23 5: 23	34 001 (Manpty 34 003 34 004 34 005 34 006	ICC MN	C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 FF	B5 FF	B6 FF	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

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

7.1.2.4.2 Procedure

- 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.

7.1.2.5 Acceptance criteria

- 1) After step b) 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.
- 2) After step d) the USIM shall contain:

EF_{FPLMN} (Forbidden PLMNs)

Logica	lly:	PLMN PLMN PLMN PLMN PLMN PLMN	2: 2: 3: 2: 4: 2: 5: 2:	34 001 (N 34 002 34 003 34 004 34 005 34 006	ACC MN	(C)						
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 24	B6 00	B7 32	B8 34	B9 00	B10 32	B11 44	B12 00
	B13 32	B14 54	B15 00	B16 32	B17 64	B18 00						

or

EF_{FPLMN} (Forbidden PLMNs)

Logical	lly:	PLMN1 PLMN2 PLMN3 PLMN4	2: 23 3: 23	4 001 (M 4 003 4 004 4 005	ICC MN	C)						
		PLMN5		4 005								
		PLMN	_	4 002								
Coding: Hex	B1 32	B2 14	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00
	B13 32	B14 64	B15 00	B16 32	B17 24	B18 00						

7.1.3 UE deleting forbidden PLMNs

7.1.3.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

7.1.3.2 Conformance requirement

- 1) Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:
 - I. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt during registration on CS to a PLMN which is in the forbidden PLMN list or
 - II. In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration on PS to a PLMN which is in the forbidden PLMN list or
 - III. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING and/or ATTACH attempt during registration on CS/PS to a PLMN which is in the forbidden PLMN list.
 - TS 22.011, subclause 3.2.2.2.
- 2) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
 - I. after receipt of LOCATION UPDATING ACCEPT message during registration on CS the UE shall delete the forbidden PLMN from the forbidden PLMN list OR
 - II. after receipt of ATTACH ACCEPT message during registration on PS the UE shall delete the forbidden PLMN from the forbidden PLMN list or
 - III. after receipt of LOCATION UPDATING ACCEPT and/or ATTCH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
 - TS 22.011, subclause 3.2.2.4.

7.1.3.3 Test purpose

- 1) To verify that the 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 transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/005/0001.

- RAI (MCC/MNC/LAC/RAC): 234/005/0001/05.

- Access control: unrestricted.

The default 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: B2 В3 R4 **B5** B6 B7 R8 B9 B10 **B11 B12** B1 FF FF FF FF FF FF Hex 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.

7.1.3.4.2 Procedure

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a 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 after receipt of a LOCATION UPDATINGE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATEING 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.

7.1.3.5 Acceptance criteria

- 1) After step c) 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.
- 2) After step d) the UE shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 3) After step f) the USIM shall contain the following values:

EF_{FPLMN} (Forbidden PLMNs)

Logica	ılly:	PLMN PLMN PLMN PLMN PLMN PLMN	2: e 3: e 4: e 5: e	mpty mpty mpty mpty mpty mpty								
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 FF	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF						

For UEs supporting CS only or CS/PS:

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234 LAI-MNC: 005

TMSI: "12345678"

Coding: B1 B2 В3 В4 **B**5 B6 **B7** B8 **B9** B10 B11 56 54 00 Hex 12 34 78 32 XX XX XX 00

For UEs supporting PS only or CS/PS:

$EF_{PSLOCI}\left(Location\ Information\right)$

Logically: RAI-MCC: 234

RAI-MNC: 005

P-TMSI: "12345678"

XX

Hex

Coding: Hex						_	_	B11 xx
Coding:	B12	B13	B14					

7.2 User controlled PLMN selector handling

00

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.

This test applies to Terminals accessing UTRAN.

7.2.1.2 Conformance requirement

The UE shall correctly replace the selected UPLMN in the User controlled PLMN selector list.

• TS 31.102, 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 is required for this test.

The default UICC is used.

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

7.2.1.4.2 Procedure

- a) The user shall initiate an MMI dependent procedure to change the second UPLMN in the User controlled PLMN selector list to MCC/MNC of 567/002, the ACT identifier shall set to UTRAN only.
- b) The UE is soft powered down.

7.2.1.5 Acceptance criteria

After step b) the USIM shall contain the following values:

EF_{PLMNwACT} (UPLMN Selector)

Logically:	1 st PLMN:	244 081 (MCC MNC)
	1 st ACT:	UTRAN
	2 nd PLMN:	567 002
	2 nd ACT	UTRAN
	3 rd PLMN:	244 082
	3 rd ACT	UTRAN
	4 th PLMN:	244 082
	4 th ACT	GSM

Coding Hex

		5 th A 6 th F 6 th A 7 th F 7 th A 8 th F 8 th A 9 th F 10 th 11 th 11 th 11 th 12 th	PLMN: ACT	UTR. 244 0 UTR.	AN 004 AN 005 AN 006 AN 007 AN 008 AN 009 AN										
g:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
	42	14	80	80	00	65	27	00	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 UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

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, 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 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.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/034/0001.

- RAI (MCC/MNC/LAC/RAC): 244/034/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{PLMNwACT} (UPLMN Selector with Access Technology)

Logica	lly:	1st A 2nd P 2nd A 3rd P 3rd A 3rd A	LMN: .CT LMN: .CT LMN: .CT PLMN: ACT PLMN: ACT PLMN:	UTRA 244 08 GSM 244 08 UTRA 244 08 GSM 244 00 UTRA 244 03 UTRA 244 03	32 NN 32 08 NN 34 NN 33	C MNC)									
		12 th .	ACI	UTRA	MN										
Coding: Hex	B1 42	B2 14	B3 80	B4 80	B5 00	B6 42	B7 14	B8 80	B9 00	B10 80	B11 42	B12 24	B13 80	B14 80	B15 00
	B16 42	B17 24	B18 80	B19 00	B20 80										
	B46 42	B47 84	B48 00	B49 80	B50 00	B51 42	B52 44	B53 30	B54 80	B55 00	B56 42	B57 34	B58 30	B59 80	B60 00

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

7.2.2.4.2 Procedure

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 After receipt of a LOCATION UPDATEING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATEING 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 a
 - 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.
- e) The UE is soft powered down.

7.2.2.5 Acceptance criteria

- 1) After step a) the UE 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 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 shall respond with
 - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 034

TMSI: "34567890"

Coding: B1 B2 **B**3 **B**4 **B5** B6 **B**7 **B8** В9 B10 B11 Hex 34 56 78 90 42 44 30 00 XX $\mathbf{X}\mathbf{X}$ XX

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 034 P-TMSI: "34567890"

Coding: B1 B2 **B**3 B4 **B**5 B6 B7 **B8** B9 **B10** B11 Hex 34 56 78 90 XXXXXX42 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 a 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.

This test applies to a GSM/UMTS dual mode UE accessing both UTRAN and GSM.

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, subclause 3.2.2;
- TS 31.102, subclauses 4.2.5 and 5.1.2.

7.2.3.2.1 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.

7.2.3.3 Method of test

7.2.3.3.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmit on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

Access control: unrestricted.

The UMTS USS transmit 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.

7.2.3.3.2 Procedure

- a) The UE is powered on.
- b) After receipt on the GSM-cell related to the BCCH transmitting MCC/MNC 244/081 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): 244/081

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.

7.2.3.4 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 ВЗ B4 B5 B6 В7 B8 В9 B10 B11 Hex 56 90 14 XX XX 00 XX

7.2.4 Void

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 depends on UEs capabilities and can be one of the following:

I.registration procedures for UEs supporting CS or

- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

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, subclause 3.2.2;
- TS 31.102, 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 is needed.

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/011/000

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.1.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

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 x1x00
 xxxx x1xx
 xxxx xx1x
 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 $2^{nd}\;ACT$ **UTRAN** 3rd PLMN: 254 002 3^{rd} ACT: **UTRAN** 4th PLMN: 254 003 4th ACT: **UTRAN** 5th PLMN: 254 004 5th ACT: **UTRAN** 6th PLMN: 254 005 6th ACT: **UTRAN** 7th PLMN: 254 006 7^{th} 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	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

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

7.3.1.4.2 Procedure

- 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 after receipt of a LOCATION UPDATEING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATEING ACCEPT to the UE with 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.

7.3.1.5 Acceptance criteria

- 1) After step a) the UE 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 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 shall respond with
 - I. TMSI REALLOCATION COMPLETE during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 254

LAI-MNC: 012

TMSI: "34567890"

Coding: **B**1 B2 В3 В4 **B**5 B6 **B7** B8 **B9** B10 B11 Hex 34 56 78 90 24 00 52 10 XX XX ХX

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 254

RAI-MNC: 012 P-TMSI: "34567890"

B2 В3 B10 Coding: B1 R4 B5 **B6** B7 B8 B9 B11 Hex 56 78 90 52 24 10 XX XX XX XX

Coding: B12 B13 B14 Hex xx xx 00

7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

7.3.2.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the $EF_{PLMNwACT}$.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

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, subclause 3.2.2.2;
- TS 31.102, 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 is needed.

The USS 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.

Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

Fixed dialling numbers available
Barred dialling numbers available
The GSM Access available
The Group Identifier level 1 and level 2 not available
Service n 33 (Packed Switched Domain) shall be set to '1'
Enabled Services Table available
Operator controlled PLMN selector available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

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

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

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

7.3.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/010 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 afterAfter receipt of a LOCATION UPDATEING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATEING ACCEPT 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.

7.3.2.5 Acceptance criteria

- 1) After step a) the UE 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 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 shall respond with
 - I. TMSI REALLOCATION COMPLETE during registration on CS or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) After step e) the USIM shall contain the following values:

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 010

TMSI: "34567890"

Coding: B2 ВЗ B4 B5 B10 B11 **B**1 B6 В7 B8 **B9** 34 56 78 90 42 04 10 00 XX XX XX

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 010 P-TMSI: "34567890"

Coding: Hex							
Co dia au	D40	D40	D4.4				

Coding: B12 B13 B14 Hex xx xx 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 UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

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, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, 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 a UTRAN USS is needed.

The USS 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 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.

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.

7.4.1.4.2 Procedure

- 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 After receipt of a LOCATION UPDATEING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATEING ACCEPT with the following values to the UE:

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 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.
- 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 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 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.

7.4.1.5 Acceptance criteria

- 1) After step e) the UE 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 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 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 6minutes.

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

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 244 LAI-MNC: 081

TMSI: "12345678"

B5 Codina: B2 **B**3 B4 B6 B8 B10 R1 R7 **B9** B11 Hex 12 34 56 78 42 14 80 00 XX ХX хx

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 081 P-TMSI: "12345678" XX

Hex

Coding: Hex							-	
Coding:	B12	B13	B14					

7.4.2 GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN

7.4.2.1 Definition and applicability

00

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. This test applies to a GSM/UMTS dual mode UE that supports the Higher priority PLMN selector with Access Technology service. In the case that the terminal has implemented this feature according to Rel-6 or later, this test is optional.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

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 list on the USIM including the Access Technology Identifier.

• TS 22.011, 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 by its position in $EF_{HPLMNwACT}$) 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 a UTRAN 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.

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 transmit 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 exceptions:

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 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 UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE 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 on the UTRAN-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 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 to the USS during registration on CS, or
 - II. ATTACH COMPLETE during registration on PS or
 - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) 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 6minutes.

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

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 081

TMSI: "12345678"

Coding: **B**1 B2 В3 В4 **B**5 B6 **B7** B8 **B9** B10 B11 34 78 14 00 Hex 12 56 42 80 XX XX ХX

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 081 P-TMSI: "12345678"

B2 **B**3 Coding: **B**1 R4 B5 B6 B7 B8 B9 B10 B11 Hex 12 34 56 78 42 14 80 XX XX XX XX

Coding: B12 B13 B14 Hex xx xx 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 GSM terminal, the phonebook my 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 Terminal later, the 3G 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} .

This test applies to all 3G Terminals.

8.1.1.2 Conformance requirement

The 3G 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 31.121, subclause 4.4.2.

8.1.1.3 Test purpose

- 1) To verify that the 3G Terminal has recognised that the phonebook has been altered by a GSM Terminal.
- 2) To verify that the 3G Terminal does the synchronising of the changed phonebook entries.
- 3) To verify that the 3G 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: "ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEF";

Length of BCD number: "03";

TON and NPI: Telephony and Unknown;

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

Record 1:

Coding: **B1** B2 В3 B32 **B33 B34 B35 B36 B37 B38** B39 B46 Hex 41 42 43 46 03 81 21 F3 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 3G 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 hall be regenerated.

The PSC is a part of the phonebook identifier.

This test applies to all 3G Terminals.

8.1.2.2 Conformance requirement

Every time either the UID or the CC is incremented by the Terminal, the value of the contend of the appropriate EF shall be tested. If either UID or CC has reached "FF FF", the related EF shall be set to "00 01" and the PSC is incremented.

• TS 31.102, subclause 4.4.2.12.2.

8.1.2.3 Test purpose

- 1) To verify that the 3G Terminal has recognised that the values of UID and CC has changed.
- 2) To verify that the 3G Terminal resets the value of EF_{UID} and EF_{CC} .
- 3) To verify that the 3G 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 use.

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 and the first value used to update EF_{UID} shall have been "00 01". The value FF FF shall have been replaced by an appropriate value which shall be distinguishable to the maximum value. EF_{PUID} shall contain the UID value, which was used for the last update of 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

8.2 Short message handling report

8.2.1 Correct storage of a SM on the USIM

8.2.1.1 Definition and applicability

Once a SM 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.

This test applies to all 3G Terminal accessing UTRAN and supporting "receive SMS" functionality.

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, clause 4.
- TS 23.040, subclause 10.1, Operation 6
- TS 24.011, subclause 8.2.2, 8.2.3 and 8.2.5.4, Table 8.4 (part 2)
- TS 31.102, subclauses 4.2.25 and 4.2.28.

8.2.1.3 Test purpose

- 1) To verify that the 3G Terminal stored correctly the class 2 SMS on the USIM.
- 2) To verify that the 3G Terminal sets the status of a received, and not yet read SMS to "3" (SMS to be read).

3) To verify that the 3G 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 x1x00
 xxxx x1xx
 xxxx xx11x

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: В1 B2 В3 B6 B176 **B**4 **B**5 **B7 B8** B9 B10 **B11** B12 Hex 00 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 В3 **B4** B5 B6 B7 **B8** B10 **B11** B12 B176 B9 Hex 01 XXXXXX

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in 3G TS 23.038

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 transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

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

- Access control: unrestricted.

The USS transmits the short messages with the following parameters:

Logically:

Class 2 SM:

TS-Service Centre Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

TP-Message-Type-Indicator: SMS-DELIVER (in the direction SC to MS)

TP-More-Messages-to-Send: No more messages are waiting for the MS in this SC

TP-Reply-Path: TP-Reply-Path parameter is not set in this SMS-DELIVER

TP-User-Data-Header-Indicator: The TP-UD field contains only the short message

TP-Status-Report-Indication: A status report shall be returned to the SME

Bits 4-3: 00

TP-Originating-Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this..."

Class 1 SM:

The same content as for the Class 2 SM 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 simulatorUser 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

- a) After the UE is set to idle mode, the defined Class 2 SM defined in 8.2.1.4.1 with 160 characters shall be sent to the UE.
- b) After the UE has indicated that a SM was received, the SM shall not be read.
- c) The USS starts sending Class 1 SMs as defined in 8.2.1.4.1 until the UE sends an RP-ERROR message with cause "Memory capacity exceeded".
- d) The UE is powered off.

8.2.1.5 Acceptance criteria

1) After step b) the record of the EF_{SMS} which was empty, shall contain the following values:

Record 1:

Logically:

Status:

RFU bits 8-6: 000

Status: Used space, message received by MS from network, message to be read

TS-Service Centre Address:

Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 112233445566

SMS TPDU:

TP-Message-Type-Indicator: SMS-DELIVER (in the direction SC to 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:

1 Bit 8:

Type-Of-Number: International number

Numbering-Plan-Identification: ISDN/telephony numbering plan

Address value: 012344556677

TP-Protocol-Identifier: No interworking, but SME-to-SME protocol

TP-Data-Coding-Scheme:

Bits 8-7: General Data Coding

Bit 6: Text is uncompressed

Bit 5: Bits 2-1 have a message class meaning

Bits 4-3: GSM 7 bit default alphabet

Bits 2-1: Class 2: (U)SIM specific message

TP-Service-Centre-Time-Stamp: 02-03-04 09:13:06 GMT + 1

TP-User-Data-Length: 160

TP-User-Data:

"Once a SMS is received by the UE, the Terminal shall store the SMS on the USIM, if this is indicated by the class 2 of the SMS (USIM specific SMS). For this ..."

(CO	di	n	g

Coaing.																
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								

2) After step d) the Memory Capacity Exceeded Notification Flag in the EF_{SMSS} shall be set to exceeded.

EF_{SMSS} (SMS Status)

Last used TP-MR shall be set to any appropriate value. Logically:

Memory capacity exceeded (flag set b1="0").

Coding: B1 R2 Hex XX FΕ

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).

This test applies to all 3G Terminal accessing UTRAN and supporting "receive SMS" functionality.

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, clause 4.
- TS 23.040;
- TS 31.102, subclauses 4.2.25 and 4.2.28.

8.2.2.3 Test purpose

- 1) To verify that the 3G Terminal read correctly the SMS on the USIM.
- 2) To verify that the 3G 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 x1x00
 xxxx x1xx
 xxxx xx11x

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 В3 B4 B5 B6 B7 **B8** B9 **B11** B12 B176 B10 Hex 03 XX XX

NOTE: "xx" shall be the appropriate text using the SMS default 7-bit coded alphabet as defined in

3GPP TS 23.038 which represents the stored SMS.

At least 9 records.

Logically: Status byte set to empty

No text is written (Remainder Bytes set to "00").

Record:

Coding: **B1** B2 **B3 B4 B**5 **B6 B7 B8 B9** B10 **B11 B12** B176 00 00 00 FF Hex 00 00 00 00 00 00 00 00 00

A USS is only needed to bring the UE into a defined idle mode. The USS 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 SM 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 SM shall be unchanged.

Record 1:

Coding: B1 B2 **B**3 B176 R4 B5 B6 B7 R8 **B9** B10 **B11** B12 Hex 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

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 should 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. Such preset MMS connectivity parameters set should be selected unless otherwise specified by the user.

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 should 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, should 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).

This test applies to Terminals accessing UTRAN, supporting MMS and supporting the usage of MMS related data stored on the USIM and when no user MMS connectivity parameters have been selected.

8.3.1.2 Conformance requirement

The MMS User Agent of a terminal, which supports the usage of MMS related data stored on the USIM, 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 6.1.11 and Annex F.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent of a terminal, which supports the usage of MMS related data stored on the USIM, 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 6.1.11 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:

- 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:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user1"

"gateway_password1"

MMS Relay/Server 2:

- MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator1.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD"
Address: "+496998626"
Type of address: "E164"

Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "B2C_OTS2"

Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.3"

Type of address: "IPv4"
Port: "9201"
Service: "CO-WSP"
Authentication type: "HTTP BASIC"
Authentication id: "gateway_user1"
Authentication pw: "gateway_password1"

MMS Relay/Server 3:

- 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:

Residual Bit Error Rate:

"1*10⁻⁵"

"1*10⁻⁶"

"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"B2B_OTS1"

"B2B password1"

Gateway

Address: "170.187.51.3"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user1"

"gateway_password1"

MMS Relay/Server 4:

- 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:

Residual Bit Error Rate:

"1*10⁻⁵"

SDU-Error-Ratio:

"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"B2C_password2"

Gateway

Address: "170.187.51.3"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user1"

"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 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_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-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"

Delivery of erroneous SDU:

Residual Bit Error Rate:

"1*10⁻⁵"

SDU-Error-Ratio:
"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"8 kbps"

"PAP"

"B2B_OTS1"

"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:

Authentication type:

Authentication id:

Authentication pw:

"8 kbps"

"PAP"

"B2C_OTS2"

"B2C_password2"

Gateway:

Authentication pw:

Address: "170.187.51.3"

Type of address: "IPv4"

Port: "9201"

Service: "CO-WSP"

Authentication type: "HTTP BASIC"

Authentication id: "gateway_user1"

"gateway_password1"

Coding:	AB	82	01	47	80	01	01	81	18	68	74	74
	70	3A	2F	2F	6D	6D	73	2E	6F	70	65	72
	61	74	6F	72	31	2E	63	6F	6D	82	2F	10
	AA	80	2B	34	39	36	39	39	38	36	32	35
	00	09	87	25	C5	0A	90	0C	9A	0D	42	32
	42	11	4F	54	53	31	00	0E	42	32	42	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	36	39	39	38	36	32
	36	00	09	87	25	C5	0A	90	0C	9A	0D	42
	32	43	11	4F	54	53	32	00	0E	42	32	43
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	31	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	42	32	42	11
	4F	54	53	31	00	0E	42	32	42	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	31	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	42	32	43	11	4F	54	53
	32	00	0E	42	32	43	11	70	61	73	73	77
	6F	72	64	32	00	83	43	20	31	37	30	2E
	31	38	37	2E	35	31	2E	33	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	31	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	31	00					

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
Ŭ				61								
	80	10	80	0F	81	07	07	80	05	00	3E	12
	2F	80	08	06	81	04	41	D5	F8	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

- 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 should 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, should 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 should 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, should 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).

This test applies to Terminals accessing UTRAN, supporting MMS and supporting the usage of MMS related data stored on the USIM and when no user MMS connectivity parameters have been selected.

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 MMS User Agent of a terminal, which supports the usage of MMS related data stored on the USIM, 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 6.1.11 and Annex F.

MMS user preferences information, which is stored on the USIM, shall be used by an MMS User Agent of a terminal, which supports the usage of MMS related data stored on the USIM, 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 6.1.11 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:

- 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

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.4"

Type of address:

Port:

"9203"

Service:

"CO-WSP"

Authentication type:

"HTTP BASIC"

Authentication id:

"gateway_user7"

"gateway_password7"

MMS Relay/Server 2:

- MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD"
Address: "+495251700"
Type of address: "E164"
Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"

Authentication id: "UDO_OTS2"
Authentication pw: "Udo_password2"

Gateway

Address: "170.187.51.4"

Type of address:

Port:

"9203"

Service:

Authentication type:

Authentication id:

Authentication pw:

"CO-WSP"

"HTTP BASIC"

"gateway_user7"

"gateway_password7"

MMS Relay/Server 3:

- MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator2.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2B-operator2.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"

Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP"

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.4"

Type of address:

Port:

"9203"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9203"

"CO-WSP"

"HTTP BASIC"

"gateway_user7"

"gateway_password7"

MMS Relay/Server 4:

- 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:

Residual Bit Error Rate:

"1*10⁻⁵"

SDU-Error-Ratio:

"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"
Authentication type: "PAP"

Authentication id: "UDO_OTS2"
Authentication pw: "Udo_password2"

Gateway

Address: "170.187.51.4"

Type of address:

Port:

"9203"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9203"

"CO-WSP"

"HTTP BASIC"

"gateway_user7"

"gateway_password7"

The default UICC is used with the following exceptions:

EF_{UST} (USIM Service Table)

Logically: Local Phone Book available

User controlled PLMN selector available

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

The Group Identifier level 1 and level 2 not available

SMS available SMS Status available

Service no. 33 (Packed Switched Domain) shall be set to '1' Service no. 52 Multimedia Messaging Service available Service no. 55 MMS User Connectivity Parameters available

Coding: B1 B2 B3 B4 B5 B6 B7

Binary xx1x xx11 x11x xxxx xxxx 1x00 xxxx x1xx xxxx xxxx x1xx xxxx xxxx x1xx

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

20 72 64 73 82 14 80 06 67 63 61 19 80 10 80 0F 81 07 07 80 05 00 3E 12 2F 80 80 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_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.B2B-operator2.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"

Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps"
Authentication type: "PAP"
Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

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:

Authentication type:

Authentication id:

Authentication pw:

"B kbps"

"PAP"

"UDO_OTS2"

"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 70 61 AA 00 4F 70 10 30 44 11 43 2D 6F 06 4F 73 08 65 09 36 32 6F 31	82 3A 74 08 09 11 61 AA 00 4F 70 10 6F 6D 33 54 73 03 72 89 08 00 72 38 32	01 2F 6F 2B 87 4F 73 08 09 11 61 AB 70 00 60 53 77 77 61 0A 0C 0E 64 37	47 2F 72 34 25 54 73 2B 87 4F 73 08 65 09 36 31 6F 61 74 90 9A 55 32 22 32 32 34 34 36 36 36 36 36 36 36 36 36 36 36 36 36	80 6D 32 39 C5 53 77 34 25 54 73 03 72 89 08 00 72 70 6F 31 0D 64 00 35	01 6D 2E 35 0A 31 6F 39 C5 53 77 77 61 0A 0C 0E 64 0D 72 03 55 6F 83 55 6F 83 55 6F 84 85 85 85 85 86 87 87 87 87 87 87 87 87 87 87 87 87 87	01 73 63 32 90 00 72 35 0A 32 6F 61 74 90 9A 55 31 42 32 37 44 11 3B 2E CR	81 2E 6F 35 0C 0E 64 32 90 00 72 70 6F 31 0D 64 00 32 03 70 4F 70 20 31 4F 31 31 31 31 31 31 31 31 31 31 31 31 31	18 6F 6D 31 9A 55 31 35 0C 0E 64 0D 72 03 55 6F 82 43 63 38 11 61 31 60 60 60 60 60 60 60 60 60 60	68 70 82 36 0D 64 00 31 9A 55 32 42 32 37 44 11 43 2D 6F 06 4F 73 37 21	74 65 2F 39 55 6F 82 37 0D 64 00 32 03 70 4F 70 10 6F 6D 33 54 73 30 85 85	74 72 10 39 44 11 2F 30 55 6F 82 42 63 38 11 61 AB 70 00 60 53 77 2E 23 61
	6F	72	64	32		83	3B	20		37		2E
	31 39	38 32	37 30	2E 31	35 00	31 24	CB	3 4 19	9C	21 1A	85 67	23 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

- 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 MMSUP.

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 should 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, should 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).

This test applies to terminals accessing UTRAN, supporting MMS and supporting the usage of MMS related data stored on the USIM and when no user MMS connectivity parameters have been selected.

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 by a MMS User Agent of a terminal, which supports the usage of MMS related data stored on the USIM, 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 6.1.11 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:

- 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 type: "PAP"
Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.5"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"CO-WSP"

"HTTP BASIC"

"gateway_user9"

"gateway_password9"

MMS Relay/Server 2:

- MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-GPRS"

Address: "wap.B2P-operator3.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"

Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink: "8 kbps" Authentication type: "PAP"

Authentication id: "UDO_OTS1"
Authentication pw: "Udo_password1"

Gateway

Address: "170.187.51.5"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user9"

"gateway_password9"

MMS Relay/Server 3:

- MMS Connectivity Parameters

MMS implementation information: "WAP"

MMS Relay/Server

MMS Relay/Server information: "http://mms-operator3.com"

Interface to Core Network and Bearer

Bearer: "GSM-CSD"
Address: "+496998626"
Type of address: "E164"
Speed: "Autobauding"

Call type: "ANALOG_MODEM"

Authentication type: "PAP"
Authentication id: "B2C_OTS2"
Authentication pw: "B2C_password2"

Gateway

Address: "170.187.51.5"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user9"

"gateway_password9"

MMS Relay/Server 4:

- 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:

Residual Bit Error Rate:

"1*10⁻⁵"

"1*10⁻⁶"

"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"B2C_OTS2"

"B2C_password2"

Gateway

Address: "170.187.51.5"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user9"

"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

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

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*10⁻⁵"
SDU-Error-Ratio: "1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"8 kbps"

"PAP"

"B2B_OTS1"

"B2B_password1"

 4^{th} 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:

Authentication type:

Authentication id:

Authentication pw:

"8 kbps"

"PAP"

"B2C_OTS2"

"B2C_password2"

Gateway:

Authentication pw:

Address: "170.187.51.5"

Type of address: "IPv4"

Port: "9201"

Service: "CO-WSP"

Authentication type: "HTTP BASIC"

Authentication id: "gateway_user9"

"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	80	2B	34	39	36	39	39	38	36	32	35
	00	09	87	25	C5	0A	90	0C	9A	0D	42	32
	42	11	4F	54	53	31	00	0E	42	32	42	11
	70	61	73	73	77	6F	72	64	31	00	82	2F
	10	AA	80	2B	34	39	36	39	39	38	36	32
	36	00	09	87	25	C5	0A	90	0C	9A	0D	42
	32	43	11	4F	54	53	32	00	0E	42	32	43
	11	70	61	73	73	77	6F	72	64	32	00	82
	43	10	AB	80	03	77	61	70	0D	42	32	42
	2D	6F	70	65	72	61	74	6F	72	33	03	63
	6F	6D	00	09	89	0A	90	31	03	37	70	38
	06	33	60	36	80	0C	9A	0D	42	32	42	11
	4F	54	53	31	00	0E	42	32	42	11	70	61
	73	73	77	6F	72	64	31	00	82	43	10	AB
	80	03	77	61	70	0D	42	32	43	2D	6F	70
	65	72	61	74	6F	72	33	03	63	6F	6D	00
	09	89	0A	90	31	03	37	70	38	06	33	60
	36	80	0C	9A	0D	42	32	43	11	4F	54	53
	32	00	0E	42	32	43	11	70	61	73	73	77
	6F	72	64	32	00	83	3B	20	31	37	30	2E
	31	38	37	2E	35	31	2E	35	00	21	85	23
	39	32	30	31	00	24	CB	19	9C	1A	67	61
	74	65	77	61	79	11	75	73	65	72	39	00
	1B	67	61	74	65	77	61	79	11	70	61	73
	73	77	6F	72	64	39	00					

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: 0E 6E 0F 3E 2F D5 E8

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:

Authentication type:

Authentication id:

Authentication pw:

"PAP"

"UDO_OTS1"

"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 70	82 3A	01 2F	47 2F	80 6D	01 6D	01 73	81 2D	18 6F	68 70	74 65	74 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

- a) The Terminal is powered on and the PIN shall be entered.
- b) When the Terminal is in idle mode the user shall generate an MM using the MMS User Agent on the Terminal with the default MMS connectivity parameter set and send it to "+0123456789". If no MMS Relay/Server is available for this parameter set, the next MMS connectivity parameter set offered by the MMS User Agent shall be used to send the MM.

8.3.3.5 Acceptance criteria

After step b) the Terminal shall have sent the MM to "+0123456789" using the first supported MMS connectivity parameter set, which can be used to access an available MMS Relay/Server and is stored in EF MMSICP.

8.3.4 Usage of MMS notification

8.3.4.1 Definition and applicability

An MMS User Agent should 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].

This test applies to terminals accessing UTRAN, supporting MMS notification storage on the USIM.

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 6.1.11 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:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"CO-WSP"

"HTTP BASIC"

"gateway_user1"

"gateway_password1"

MMS Relay/Server 2:

- 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:

Residual Bit Error Rate:

"1*10⁻⁵"

SDU-Error-Ratio:

"1*10⁻⁶"

Traffic-class: "Interactive class"

Maximum bit rate for downlink:

Authentication type:

Authentication id:

Authentication pw:

"8 kbps"

"PAP"

"B2B_OTS1"

"B2B_password1"

Gateway

Address: "170.187.51.3"

Type of address:

Port:

"9201"

Service:

Authentication type:

Authentication id:

Authentication pw:

"TPv4"

"9201"

"CO-WSP"

"HTTP BASIC"

"gateway_user1"

"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

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 74 69 6E 06 67 20 63 61 72 64 73 82 19 14 80 80 10 80 0F 81 07 07 80 05 00 3E 2F 80 08 06 81 04 41 D5 E8

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_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-operator1.com"

Type of address: "APN"

Call type: "ANALOG_MODEM"

Delivery of erroneous SDU: "No"
Residual Bit Error Rate: "1*10⁻⁵"

```
"1*10-6"
          SDU-Error-Ratio:
          Traffic-class:
                                                "Interactive class"
                                                "8 kbps"
          Maximum bit rate for downlink:
                                                "PAP"
          Authentication type:
                                                "B2B_OTS1"
          Authentication id:
          Authentication pw:
                                                "B2B_password1"
      4<sup>th</sup> 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"
                                                "1*10-6"
          SDU-Error-Ratio:
                                                "Interactive class"
          Traffic-class:
                                                "8 kbps"
          Maximum bit rate for downlink:
          Authentication type:
                                                "PAP"
          Authentication id:
                                                "B2C OTS2"
          Authentication pw:
                                                "B2C_password2"
      Gateway:
                                                "170.187.51.3"
          Address:
          Type of address:
                                                "IPv4"
          Port:
                                                "9201"
                                                "CO-WSP"
          Service:
          Authentication type:
                                                "HTTP BASIC"
          Authentication id:
                                                "gateway_user1"
          Authentication pw:
                                                "gateway_password1"
                                            01
Coding:
          AB
                 82
                       01
                               47
                                     80
                                                   01
                                                          81
                                                                 18
                                                                        68
                                                                               74
                                                                                     74
          70
                 ЗА
                       2F
                               2F
                                     6D
                                            6D
                                                          2E
                                                                        70
                                                                               65
                                                                                     72
                                                   73
                                                                 6F
          61
                 74
                        6F
                               72
                                     31
                                            2E
                                                   63
                                                          6F
                                                                 6D
                                                                        82
                                                                               2F
                                                                                      10
                 80
                        2B
                               34
                                     39
                                                   39
                                                          39
                                                                        36
                                                                               32
          AA
                                            36
                                                                 38
                                                                                     35
                 09
                       87
                              25
                                     C5
                                                   90
                                                          0C
                                                                               42
                                                                                     32
          00
                                            0A
                                                                 9A
                                                                        NΠ
                        4F
                              54
                                     53
                                                   00
                                                          0E
                                                                 42
                                                                               42
          42
                 11
                                            31
                                                                        32
                                                                                     11
          70
                 61
                        73
                               73
                                     77
                                            6F
                                                   72
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                                                                                     2F
                                                          39
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          10
                 AA
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                                                                                     42
          36
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          32
                 43
                        11
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                 70
          11
                       61
                              73
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                                                                        32
                                                                               00
                                                                                     82
          43
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                        AB
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                                     03
                                            77
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                                                                                     42
          2D
                 6F
                        70
                               65
                                     72
                                            61
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                                                                                     63
                 6D
                       00
                              09
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          6F
                                     89
                                            0A
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                                                          31
          06
                 33
                        60
                              36
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                                                   9A
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          4F
                 54
                        53
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          73
                 73
                        77
                                            64
                                                          00
                              6F
                                     72
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          80
                 03
                       77
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                                            0D
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                              61
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          65
                 72
                       61
                                     6F
                                            72
                                                   31
                                                          03
                                                                 63
                                                                        6F
                                                                               6D
                                                                                     00
                              74
          09
                 89
                       0A
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                                                                                     60
          36
                 08
                       0C
                              9A
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                                                                               54
                                                                                     53
                                                                 11
          32
                 00
                       0E
                               42
                                     32
                                            43
                                                          70
                                                                 61
                                                                        73
                                                                               73
                                                                                     77
                                                   11
                                                                                     2E
          6F
                 72
                       64
                               32
                                     00
                                            83
                                                   3C
                                                          20
                                                                 31
                                                                        37
                                                                               30
                 38
                       37
                              2E
                                                   2E
                                                                                     23
          31
                                     35
                                            31
                                                          33
                                                                 00
                                                                        21
                                                                               85
                 32
                                     00
                                                   СВ
                                                                                     61
          39
                        30
                              31
                                            24
                                                          19
                                                                 9C
                                                                        1A
                                                                               67
```

EF EXT8

Logically:

At least 10 records.

1B

6F

Record 1 to 10: Free space with 253 bytes for extension data

Record 1:

Coding: B1 B2 B3 B4 ... B255 Hex 00 FF FF FF FF

The UICC is installed into the Terminal and the user hasn't specified a default MMS connectivity parameter set.

8.3.4.4.2 Procedure

- a) The terminal is powered on and the PIN shall be entered.
- b) When the terminal is in idle mode a MM shall be sent to the terminal via the MMS Relay/Server 1 or 2, dependent on the bearer supported by the terminal. This MMS Relay/Server shall then generate a notification to the Terminal's MMS User Agent. With the MM notification the MMS User Agent shall receive a message reference that can be used for retrieving the MM from this MMS Relay/Server.

The MM shall result in a MMS notification with the following predefined values:

• X-Mms Message Type: "m-notification-ind" (0x82)

• X-Mms-Transaction-ID: "01"

• X-Mms-MMS-Version: "1.0"

• From: not present (hidden)

• Subject: "MM for you"

• X-Mms-Content-Location: "http://mms-operator1/MMBox/ID-007-12345678"

- c) The user shall read the MMS notification stored on the USIM.
- d) The user shall retrieve the MM stored on the MMS Relay/Server used in step b).
- e) The user shall forward the MM to "<u>+0123456789</u>" using the default MMS Issuer Connectivity Parameters stored on the USIM.
- f) A MM shall be sent to the terminal via the same MMS Relay/Server as in step b). This MMS Relay/Server shall then generate a notification to the Terminal's MMS User Agent. With the MM notification the MMS User Agent shall receive a message reference that can be used for retrieving the MM from this MMS Relay/Server.

The MM shall result in a MMS notification with the following predefined values:

• X-Mms Message Type: "m-notification-ind" (0x82)

• X-Mms-Transaction-ID: "02"

• X-Mms-MMS-Version: "1.0"

• From: "+0987123654"

Subject: "Urgent MM"

• X-Mms-Content-Location: "http://mms-operator1/MMBox/ID-007-02468024"

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

8.3.4.5 Acceptance criteria

1) After step b) the MMS User Agent on the terminal shall have stored the MMS notification on the USIM with the values defined in step b) of 8.4.4.4.2, the associated status shall have been set to "Used space, notification not read, MM not retrieved" and the MMS User Agent shall indicate to the user that a MMS notification has been received.

- 2) After step c) the status of the MMS notification stored on the USIM shall have been set to "used space, notification read, MM not retrieved".
- 3) After step d) the MMS user agent shall have retrieved the MM from the MMS Relay/Server 1 and the status of the MMS notification stored on the USIM shall have either been set to "used space, notification read, MM retrieved" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".
- 4) After step e) the terminal shall have read the set of MMS Issuer Connectivity Parameters stored first in EF MMSICP and shall have forward the MM to "+0123456789" using the MMS Relay/Server 1. The MMS notification shall have either been set to "used space, notification read, MM forwarded" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".
- 5) After step f) the MMS User Agent on the terminal shall have stored the MMS notification on the USIM with the values defined in step f) of 8.4.4.4.2, the associated status shall have been set to "Used space, notification not read, MM not retrieved" and the MMS User Agent shall indicate to the user that a MMS notification has been received.
- 6) After step g) the status of the MMS notification stored on the USIM shall have been set to "used space, notification read, MM not retrieved".
- 7) After step h) the MMS user agent shall have not retrieved the MM from the MMS Relay/Server 1 and the status of the MMS notification stored on the USIM shall have either been set to "used space, notification read, MM rejected" or the MMS notification shall have been deleted and the associated shall have been set to "Free space".

Annex A (informative): Change history

The table below indicates all change requests that have been incorporated into the present document since it was initially approved by 3GPP TSG-T.

TSG # / Date	TSG Doc	Doc 2nd level	CR	Rev	Cat	Subject/Comment	New
TP-10	TP-000205					Final draft approved at TSG-T #10	3.0.0
TP-12	TP-010108		001		F	Correction of EF(UST) used in the Test USIM	4.0.0
	TP-010108		002		F	Correction of EF(ECC) used in the Test USIM	
	TP-010108		003		F	Correction to EF(HPLMN) regarding test USIMs	
	TP-010108		004		F	Deletion of a duplicated test case	
	TP-010108		005		F	Modification of EF ECC used in the Test USIM	
TP-16	TP-020117		007		F	Correction of tests using EF (USIM Service Table)	4.1.0
TP-17	TP-020215		800		Α	Correction of coding of EF ACMMax	4.2.0
			010		Α	Correction of number of bytes of EF Keys	
			012	1	Α	Definition of short message	
TP-18	TP-020286		015		Α	Correction of PIN 2 related tests	4.3.0
			017		Α	Essential clarifications	
			019		Α	Correction of EF OPLMNwACT	
TP-19	TP-030028		021		Α	File size correction	4.4.0
			023		Α	Correction of PLMN coding	
TP-20	TP-030123		025		Α	Correction of acceptance criteria	4.5.0
TP-21	TP-030184		027		Α	Usage of 3G PDU definition for UEs accessing UTRAN	4.6.0
TP-23	TP-040028		029		F	CR 31.121 Rel-4: Essential Corrections	4.7.0
TP-24	TP-040338		031		Α	Removal of EF_RPLMNACT and related tests	4.8.0
TP-24	TP-040340		033		Α	Security related tests	4.8.0
TP-25	TP-040184		040		F	Correction of SMS related test cases	4.9.0
	TP-040184		038		Α	Essential Corrections on section 7	4.9.0
	TP-040184		043		В	Creation of MMS related tests	4.9.0
	TP-040184		035		Α	Alignment with TS 51.010-1 on default EF-ADN configuration	4.9.0
	TP-040184		036		F	Essential Corrections on sections 2-6	4.9.0
	TP-040184		042		Α	Correction of Access Control handling related test case TC 5.2.1.	4.9.0
TP-26	TP-040263		045		F	Correction of non specific references	4.10.0
TP-27	TP-050022	T3-050102	048		Α	Correction of Operator controlled PLMN selector handling tests	4.11.0
TP-27	TP-050022	T3-050105	051		Α	Correction to the 'Maximum frequency of ACM updating' test	4.11.0
TP-27	TP-050022	T3-050123	057		Α	Correction of HPLMN Search Period tests	4.11.0
TP-27	TP-050022	T3-050156	054		Α	Correction of verification of EF PSLOCI in section 7 "PLMN related tests":	4.11.0
CP-28	CP-050136	C6-050357	060		Α	ISO/IEC 7816-series revision	4.12.0
CP-28	CP-050137		063		Α	Correction of the content for Class 1 short messages in TC 8.2.1	4.12.0
CP-28	CP-050137	C6-050363	066		Α	Essential correction of TC 8.1.2	4.12.0
CP-28	CP-050137		070		Α	Deletion of BDN tests	4.12.0

History

	Document history							
V4.0.0	July 2001	Publication						
V4.1.0	June 2002	Publication						
V4.2.0	September 2002	Publication						
V4.3.0	December 2002	Publication						
V4.4.0	March 2003	Publication						
V4.5.0	June 2003	Publication						
V4.6.0	September 2003	Publication						
V4.7.0	March 2004	Publication						
V4.8.0	June 2004	Publication						
V4.9.0	September 2004	Publication						
V4.10.0	December 2004	Publication						
V4.11.0	March 2005	Publication						
V4.12.0	June 2005	Publication						