3GPP TSG-T (Terminals) Meeting #23
Phoenix, USA
10 - 12 March, 2004

TP-040028

Agenda Item: 5.3.3

Source: T3

Title: CRs to TS 31.121: UICC-terminal interface; USIM application test specification

Document for: Approval

This document contains the following change requests that are approved by 3GPP TSG T3 and forwarded to 3GPP TSG T#23 for approval:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level
31.121	028	-	R99	CR 31.121 R99: Essential Corrections	F	3.7.0	3.8.0	T3-040121
31.121	029	-	Rel-4	CR 31.121 Rel-4: Essential Corrections	F	4.6.0	4.7.0	T3-040122

3GPP TSG T WG3 Meeting #30 ***T3-040121***
Sophia Antipolis, France, 9th – 13th February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **31.121 CR 028** ⌘ **rev -** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	CR 31.121 R99: Essential Corrections
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	10/02/2004
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ Correction of incorrect codings, test purpose descriptions and acceptance criteria.

Summary of change: ⌘
4.1.1 :
To fulfill the PS-Domain registration requirement according to 34.108 the EF PS-LOCI has to be declared as default value. This will be needed for test case implementations of section 7.
4.2.1.3:
The „+“ sign in the dialled number does not correspond to the value of NPI: Unknown.
4.2.1.4 , 4.3.1.3, 4.3.1.4:
Wrong hex-coding for Emergency call code: " 122".
5.1.4.5:
Wrong message referenced here, should be PAGING TYPE 1 from RRC
5.1.5.4.2:
Missing Security procedure on RRC after authentication procedure. In this TC no call is established.
6.2.1.2
Update of references
6.2.1.3
Wrong purpose description (TP 3)
6.2.2.2 , 6.2.3.2 , 6.3.1.2
Update of references

		6.3.1.3 Test purpose description corrected (TP 2) 6.3.1.4.2 Update of references 6.3.1.5 Wrong Acceptance Criteria: After step c) the UE shall allow call set-up and send the requested number across the air interface, as the abbreviated dialling number 1 (record 1) is not registered as BDN. 6.3.2.1 Correction of wording 6.3.2.2 Update of references; Correction of wording 6.3.2.4.2 Correction of wording 6.3.2.5 Correction of numbering
Consequences if not approved:	⌘	MEs will fail incorrect tests or tests can't be implemented on any test system due to above listed errors.

Clauses affected:	⌘	4.1.1 , 4.2.1.3 , 4.2.1.4 , 4.3.1.3, 4.3.1.4 , 5.1.4.5 , 5.1.5.4.2 , 6.2.1.1 , 6.2.1.2 , 6.2.1.3 , 6.2.2.2 , 6.2.3.2 , 6.3.1.2 , 6.3.1.3 , 6.3.1.4.2 , 6.3.1.5 , 6.3.2.1, 6.3.2.2 , 6.3.2.4.2, 6.3.2.5

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4 Default Values

All Test defined in the subsequent clauses applies to Terminal using both type of currently specified UICC (ID-1 UICC or Plug-in UICC) in TS 102 221 clause 4 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	31	75	F9	FF	FF

4.1.1.2 EF_{AD} (Administrative Data)

Logically: Normal operation
OFM to be deactivated by the Terminal
MNC: 3 digit

Coding:	B1	B2	B3	B4
Hex	00	00	00	03

4.1.1.3 EF_{LOCI} (Location Information)

Logically: LAI-MCC: 246
LAI-MNC: 081
LAI-LAC: 0001
TMSI: "FF .. FF"

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

4.1.1.4 EF_{Keys} (Ciphering and Integrity Keys)

Logically: Key Set Identifier KSI: 0x
Ciphering Keys CK: xx
Integrity Keys IK: xx

Coding:	B1	B2	B3	...	B16	B17	B18	...	B30	B31	B32	B33
Hex	0x	xx	xx	...	xx	xx	xx	...	xx	xx	xx	xx

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

Logically: Key Set Identifier KSI: 0x
Ciphering Keys CK: xx
Integrity Keys IK: xx

Coding:	B1	B2	B3	...	B16	B17	B18	...	B31	B32	B33
Hex	0x	xx	xx	...	xx	xx	xx	...	xx	xx	xx

4.1.1.6 EF_{ACC} (Access Control Class)

Logically: One and 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 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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	32	24	00	32	34	00	32	44	00

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

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'

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.

Record 1 to 10:		
	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	B3	...	B32	B33	B34	B35	B36	B37	B38	B39	...	B46
Hex	41	42	43	...	46	03	81	21	F3	FF	FF	FF	...	FF

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

Besides of the 8 mandatory PLMNwACT entries 4 optional PLMNwACT entries are defined according to TS 31.102 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	
12th ACT:	UTRAN	

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	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	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

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.

Logically:	1st PLMN:	254 001 (MCC MNC)	
	1st ACT:	UTRAN	
	2nd PLMN:	254 001	
	2nd ACT:		GSM
	3rd PLMN:	254 002	
	3rd ACT:		UTRAN
	4th PLMN:	254 003	
	4th ACT:		UTRAN
	5th PLMN:	254 004	
	5th ACT:		UTRAN
	6th PLMN:	254 005	
	6th ACT:		UTRAN
	7th PLMN:		254 006
	7th ACT:		UTRAN
	8th PLMN:		254 007
	8th ACT:		UTRAN

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

4.1.1.13 $EF_{RPLMNACT}$ (RPLMN Last used Access Technology)

Logically: No information about the last used ACT available.

Coding:	B1	B2
Hex	00	00

4.1.1.14 PIN

Logically: 2468

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

4.1.1.15 PIN2

Logically: 3579

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

4.1.1.16 Unblock PIN

Logically: 13243546

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

4.1.1.17 Unblock PIN2

Logically: 08978675

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

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. 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	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	FF	FF	FF	FF	FF	FF	FF	42	16	80	00

Coding:	B12	B13	B14
Hex	01	05	00

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)

…

4.2.1.3 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	08

	B14	B15	B16	B17	B18	B19	B20
	FF	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:

	B1	B2	B3	B4	B5	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	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: RFU.

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	21	~~1F~~ F2	FF	54	45	53	54	00

…

4.3 Definition of BDN UICC

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

4.3.1 Values of the EF's (BDN UICC)

…

4.3.1.3 EF_{BDN} (Barred Dialling Numbers)

Logically:
Record 1:
Length of alpha identifier: 6 characters;
Alpha identifier: "BDN111";
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	42	44	4E	31	31	31	06	91	31	75	29	64	08

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

Record 2:
Length of alpha identifier: 6 characters;
Alpha identifier: "BDN222";
Length of BCD number: "03";
TON and NPI: Telephony and Unknown;
Dialled number: 122;
CCI: None;
Ext2: None.

Coding for record 2:

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	42	44	4E	32	32	32	04	81	21	~~F3~~F2	FF	FF	FF

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

…

4.3.1.4 EF_{ECC} (Emergency Call Codes)

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

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	21	~~1F~~ F2	FF	54	45	53	54	00

…

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.

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 bits (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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	21	43	00	00	42	16	80	00	01	FF	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~~REQUEST~~.

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.

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 EF_{LOCI}.

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	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

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 ~~call~~ 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	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	42	16	80	xx	xx	xx	00

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

…

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~~s~~ the Emergency call codes of the USIM $EF_{ECC.}$

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

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 allows call set-up of an emergency call using the emergency number stored in the Terminal.

7) The UE allows call set-up of an emergency call using the emergency number stored in the USIM.

Reference:

- TS 22.101, clauses 8 and A.24;
- TS 31.102, subclauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2.

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 ~~a~~ 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 allows emergency call set-up using the emergency number stored in the Terminal.

6) To verify that the Terminal allows emergency call set-up using the emergency number stored in the UISM.

6.2.1.4 Method of test

6.2.1.4.1 Initial conditions

The USS 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.

g) 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, subclause 8.1 shall be used (i.e. 000, 08, 112, 110, 911 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) and e) the UE shall prevent call set-up.

4) After steps f) and g) the UE shall allow emergency call by indicating the call setup as "Emergency Call".

6.2.2 Terminal and USIM with FDN disabled

6.2.2.1 Definition and applicability

Fixed Dialling Numbers (FDN) is a service defined for the USIM. An enabled FDN service results in call restrictions for the UE. Only directory numbers which are stored in the EF_{FDN} may be dialled by the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of FDN the UE runs the FDN capability request procedure during UICC-Terminal initialisation. Deactivation of the service by the subscriber is possible under the control of PIN2 and switches the USIM into a "normal", non restrictive USIM.

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

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, clauses 8 and A.24;
- TS 31.102, subclauses ~~4.4.2~~ 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.

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, clause 8 and A.24;
- TS 31.102, subclauses 4.4.2.3, 4.2.24, 4.2.474.4.2, 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:

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	46	44	4E	31	31	31	06	91	78	56	34	12	F0

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

6.3 Barred Dialling numbers (BDN) handling

6.3.1 Terminal and USIM with BDN enabled

6.3.1.1 Definition and applicability

Barred Dialling Numbers (BDN) is a service defined for the USIM. An enabled BDN service results in call restrictions for the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of BDN the UE runs the BDN capability request procedure during UICC-Terminal initialisation.

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

6.3.1.2 Conformance requirement

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

2) The UE shall prevent call set-up to ~~a~~ any number stored in EF_{BDN}.

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

Reference:

- TS 22.101, clause 8 and A.19;
- TS 31.102, subclauses 4.2.44, 4.4.2.3, 5.1.1 and 5.3.2.

6.3.1.3 Test purpose

1) To verify that the Terminal rejects call set-up to any number that has an entry in EF_{BDN}.

2) To verify that the Terminal allows call set-up to any number ~~other number~~ not stored in EF_{BDN}.

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

6.3.1.4 Method of test

6.3.1.4.1 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 BDN UICC with BDN service enabled is installed into the Terminal.

6.3.1.4.2 Procedure

a) The UE is powered on and PIN is entered.

b) Using the MMI a call set-up to the barred dialling number 1 (record 1) is attempted.

c) Using the ADN entry a call set-up to the abbreviated dialling number 1 (record 1) end is attempted.

d) Using the MMI a call set-up to the number "123456" is attempted.

e) Using the MMI an emergency call set-up is attempted using the emergency call code stored in the Terminal

f) 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 e) one of the emergency call codes according to 22.101, subclause 8.~~1~~ is used (i.e. 000, 08, 112, 110, 911 or 999).

6.3.1.5 Acceptance criteria

1) After step a) the UE is registered and in idle state.

2) After steps b) ~~and c)~~ the UE shall prevent call set-up.

3) After steps c) and d) the UE shall allow call set-up and send the requested number across the air interface.

4) After steps f) and g) the UE shall allow an emergency call by indicating the call setup as "Emergency Call".

6.3.2 Terminal and USIM with BDN disabled

6.3.2.1 Definition and applicability

Barred Dialling Numbers (BDN) is a service defined for the USIM. An enabled BDN service results in call restrictions for the UE. No numbers which are stored in the EF_{BDN} may be dialled by the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of ~~FDN~~ BDN the UE runs the ~~FDN~~ BDN 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. When the BDN is disabled no special controls are specified. The BDN may be read as if they were normal ADN. However a modification or deletion of the a BDN is under PIN2 control.

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

6.3.2.2 Conformance requirement

1) Recognising the state of the USIM (~~FDN~~ BDN disabled) the UE correctly performs the UICC initialisation procedure.

2) The UE allows call set-up to a directory number as stored in EF_{BDN}.

3) Any change to the EF_{BDN} does requests PIN2.

Reference:

- TS 22.101, clauses 8 and A.19;
- TS 31.102, subclauses 4.2.44, 5.1.1 and 5.3.2.

6.3.2.3 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 BDN number.

3) The UE shall allow updating of EF_{BDN} by the use of PIN2.

6.3.2.4 Method of test

6.3.2.4.1 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.

6.3.2.4.2 Procedure

a) Using the MMI a call set-up to the barred dialling number 1 is attempted.

b) Using the MMI the directory number "+876543210" is stored in EF_{BDN} as ~~fixed~~ barred dialling number 1 (record 1). The alpha identifier is not changed. On request of the UE PIN2 is entered.

6.3.2.5 Acceptance criteria

1) After step a) the UE shall allow call set-up and send the requested number across the air interface.

2~~4~~) After step b) record 1 in EF_{BDN} , shall contain the following values:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	42	44	4E	31	31	31	06	91	78	56	34	12	F0

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

…

3GPP TSG T WG3 Meeting #30 ***T3-040122***
Sophia Antipolis, France, 9th – 13th February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **31.121** **CR** **029** ⌘ **rev** **-** ⌘ Current version: **4.6.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	CR 31.121 Rel-4: Essential Corrections
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	10/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘ Correction of incorrect codings, test purpose descriptions and acceptance criteria.

Summary of change: ⌘
4.1.1 :
To fulfill the PS-Domain registration requirement according to 34.108 the EF PS-LOCI has to be declared as default value. This will be needed for test case implementations of section 7.
4.2.1.3:
The „+“ sign in the dialled number does not correspond to the value of NPI: Unknown.
4.2.1.4 , 4.3.1.3, 4.3.1.4:
Wrong hex-coding for Emergency call code: " 122".
5.1.4.5:
Wrong message referenced here, should be PAGING TYPE 1 from RRC
5.1.5.4.2:
Missing Security procedure on RRC after authentication procedure. In this TC no call is established.
6.2.1.2
Update of references
6.2.1.3
Wrong purpose description (TP 3)
6.2.2.2 , 6.2.3.2 , 6.3.1.2
Update of references
6.3.1.3
Test purpose description corrected (TP 2)
6.3.1.4.2
Update of references

		6.3.1.5 Wrong Acceptance Criteria: After step c) the UE shall allow call set-up and send the requested number across the air interface, as the abbreviated dialling number 1 (record 1) is not registered as BDN. 6.3.2.1 Correction of wording 6.3.2.2 Update of references; Correction of wording 6.3.2.4.2 Correction of wording 6.3.2.5 Correction of numbering
Consequences if not approved:	⌘	MEs will fail incorrect tests or tests can't be implemented on any test system due to above listed errors.

Clauses affected:	⌘	4.1.1 , 4.2.1.3 , 4.2.1.4 , 4.3.1.3, 4.3.1.4 , 5.1.4.5 , 5.1.5.4.2 , 6.2.1.1 , 6.2.1.2 , 6.2.1.3 , 6.2.2.2 , 6.2.3.2 , 6.3.1.2 , 6.3.1.3 , 6.3.1.4.2 , 6.3.1.5 , 6.3.2.1, 6.3.2.2 , 6.3.2.4.2 , 6.3.2.5			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4 Default Values

All Test defined in the subsequent clauses applies to Terminal using both type of currently specified UICC (ID-1 UICC or Plug-in UICC) in TS 102 221 clause 4 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	31	75	F9	FF	FF

4.1.1.2 EF_{AD} (Administrative Data)

Logically: Normal operation
OFM to be deactivated by the Terminal
MNC: 3 digit

Coding:	B1	B2	B3	B4
Hex	00	00	00	03

4.1.1.3 EF_{LOCI} (Location Information)

Logically: LAI-MCC: 246
LAI-MNC: 081
LAI-LAC: 0001
TMSI: "FF .. FF"

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

4.1.1.4 EF_{Keys} (Ciphering and Integrity Keys)

Logically:
- Key Set Identifier KSI: 0x
- Ciphering Keys CK: xx
- Integrity Keys IK: xx

Coding:	B1	B2	B3	...	B16	B17	B18	...	B30	B31	B32	B33
Hex	0x	xx	xx	...	xx	xx	xx	...	xx	xx	xx	xx

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

Logically:
- Key Set Identifier KSI: 0x
- Ciphering Keys CK: xx
- Integrity Keys IK: xx

Coding:	B1	B2	B3	...	B16	B17	B18	...	B31	B32	B33
Hex	0x	xx	xx	...	xx	xx	xx	...	xx	xx	xx

4.1.1.6 EF_{ACC} (Access Control Class)

Logically: One and 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 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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	14	00	32	24	00	32	34	00	32	44	00

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

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'

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.

Record 1 to 10:	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	B3	...	B32	B33	B34	B35	B36	B37	B38	B39	...	B46
Hex	41	42	43	...	46	03	81	21	F3	FF	FF	FF	...	FF

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

Besides of the 8 mandatory PLMNwACT entries 4 optional PLMNwACT entries are defined according to TS 31.102 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
	12th ACT:	UTRAN

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	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.

Logically:
- 1st PLMN: 254 001 (MCC MNC)
- 1st ACT: UTRAN
- 2nd PLMN: 254 001
- 2nd ACT: GSM
- 3rd PLMN: 254 002
- 3rd ACT: UTRAN
- 4th PLMN: 254 003
- 4th ACT: UTRAN
- 5th PLMN: 254 004
- 5th ACT: UTRAN
- 6th PLMN: 254 005
- 6th ACT: UTRAN
- 7th PLMN: 254 006
- 7th ACT: UTRAN
- 8th PLMN: 254 007
- 8th ACT: UTRAN

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

4.1.1.13 $EF_{RPLMNACT}$ (RPLMN Last used Access Technology)

Logically: No information about the last used ACT available.

Coding:	B1	B2
Hex	00	00

4.1.1.14 PIN

Logically: 2468

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

4.1.1.15 PIN2

Logically: 3579

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

4.1.1.16 Unblock PIN

Logically: 13243546

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

4.1.1.17 Unblock PIN2

Logically: 08978675

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

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. 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	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	FF	FF	FF	FF	FF	FF	FF	42	16	80	00

Coding:	B12	B13	B14
Hex	01	05	00

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)

…

4.2.1.3 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	08

	B14	B15	B16	B17	B18	B19	B20
	FF	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:

	B1	B2	B3	B4	B5	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	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:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	21	~~1F~~ F2	FF	54	45	53	54	10

…

4.3 Definition of BDN UICC

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

4.3.1 Values of the EF's (BDN UICC)

…

4.3.1.3 EF_{BDN} (Barred Dialling Numbers)

Logically:

Record 1:	Length of alpha identifier:	6 characters;
	Alpha identifier:	"BDN111";
	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	42	44	4E	31	31	31	06	91	31	75	29	64	08

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

Record 2:	Length of alpha identifier:	6 characters;
	Alpha identifier:	"BDN222";
	Length of BCD number:	"03";
	TON and NPI:	Telephony and Unknown;
	Dialled number:	122;
	CCI:	None;
	Ext2:	None.

Coding for record 2:

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	42	44	4E	32	32	32	04	81	21	~~F3~~F2	FF	FF	FF

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

…

4.3.1.4 EF_{ECC} (Emergency Call Codes)

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

Coding:	B1	B2	B3	B4	B5	B6	B7	B8
Hex	21	~~1F~~ F2	FF	54	45	53	54	10

…

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.

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:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	21	43	00	00	42	16	80	00	01	FF	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 "2143".

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~~REQUEST~~.

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.

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	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

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 ~~call~~ 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	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	42	16	80	xx	xx	xx	00

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

…

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~~s~~ 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.

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 allows call set-up of an emergency call using the emergency number stored in the Terminal.

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, clauses 8 and A.24;
- TS 31.102, subclauses 4.4.2, 4.2.24, 5.1.1 and 5.3.2;
- TS 24.008, 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 ~~a~~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 allows emergency call set-up using the emergency number stored in the Terminal.

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.

g) 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, subclause 8.1 shall be used (i.e. 000, 08, 112, 110, 911 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) and e) the UE shall prevent call set-up.

4) After steps f) and g) 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.

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, clauses 8 and A.24;
- TS 31.102, subclauses ~~4.4.2~~ 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.

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, clause 8 and A.24;
- TS 31.102, subclauses 4.4.2.3, 4.2.24, 4.2.47~~4.4.2~~, 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:

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	46	44	4E	31	31	31	06	91	78	56	34	12	F0

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

6.3 Barred Dialling numbers (BDN) handling

6.3.1 Terminal and USIM with BDN enabled

6.3.1.1 Definition and applicability

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

6.3.1.2 Conformance requirement

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

2) The UE shall prevent call set-up to ~~a~~ any number stored in EF_{BDN}.

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

Reference:

- TS 22.101, clause 8 and A.19;
- TS 31.102, subclauses 4.2.44, 4.4.2.3, 5.1.1 and 5.3.2;
- TS 24.008, subclause 10.5.4.33.

6.3.1.3 Test purpose

1) To verify that the Terminal rejects call set-up to any number that has an entry in EF_{BDN}.

2) To verify that the Terminal allows call set-up to any number ~~other number~~ not stored in EF_{BDN}.

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

4) To verify that the Terminal reads correctly the emergency service category stored in $EF_{ECC.}$

6.3.1.4 Method of test

6.3.1.4.1 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 BDN UICC with BDN service enabled is installed into the Terminal.

6.3.1.4.2 Procedure

a) The UE is powered on and PIN is entered.

b) Using the MMI a call set-up to the barred dialling number 1 (record 1) is attempted.

c) Using the ADN entry a call set-up to the abbreviated dialling number 1 (record 1) end is attempted.

d) Using the MMI a call set-up to the number "123456" is attempted.

e) Using the MMI an emergency call set-up is attempted using the emergency call code stored in the Terminal

f) 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 e) one of the emergency call codes according to TS 22.101, subclause 8~~.1~~ is used (i.e. 000, 08, 112, 110, 911 or 999).

6.3.1.5 Acceptance criteria

1) After step a) the UE is registered and in idle state.

2) After steps b) ~~and c)~~ the UE shall prevent call set-up.

3) After steps c) and d) the UE shall allow call set-up and send the requested number across the air interface.

4) After steps e) and f) the UE shall allow an emergency call by indicating the call setup as "Emergency Call".

5) After step f) the UE shall send the emergency service category correctly as "Mountain Rescue".

6.3.2 Terminal and USIM with BDN disabled

6.3.2.1 Definition and applicability

Barred Dialling Numbers (BDN) is a service defined for the USIM. An enabled BDN service results in call restrictions for the UE. No numbers which are stored in the EF_{BDN} may be dialled by the UE. The call restrictions are controlled by the Terminal. To ascertain the type of USIM and state of ~~FDN~~ BDN the UE runs the ~~FDN~~ BDN 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. When the BDN is disabled no special controls are specified. The BDN may be read as if they were normal ADN. However a modification or deletion of the a BDN is under PIN2 control.

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

6.3.2.2 Conformance requirement

1) Recognising the state of the USIM (~~FDN~~ BDN disabled) the UE correctly performs the UICC initialisation procedure.

2) The UE allows call set-up to a directory number as stored in EF_{BDN}.

3) Any change to the EF_{BDN} does requests PIN2.

Reference:

- TS 22.101, clauses 8 and A.19;
- TS 31.102, subclauses 4.2.44, 5.1.1 and 5.3.2.

6.3.2.3 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 BDN number.

3) The UE shall allow updating of EF_{BDN} by the use of PIN2.

6.3.2.4 Method of test

6.3.2.4.1 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.

6.3.2.4.2 Procedure

a) Using the MMI a call set-up to the barred dialling number 1 is attempted.

b) Using the MMI the directory number "+876543210" is stored in EF_{BDN} as ~~fixed~~ barred ~~-~~dialling number 1 (record 1). The alpha identifier is not changed. On request of the UE PIN2 is entered.

6.3.2.5 Acceptance criteria

1) After step a) the UE shall allow call set-up and send the requested number across the air interface.

2~~4~~) After step b) record 1 in EF_{BDN} , shall contain the following values:

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
Hex	42	44	4E	31	31	31	06	91	78	56	34	12	F0

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

…