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Abstract of document:

This specification is provided in support of TS 34.121, 34.122, 34.123-1 and 26.132. It contains common elements of the test environments used in the tests contained in these specifications. It provides a single point of information regarding general equipment configurations, specifications, generic set up procedures and so on, and prevents the need to duplicate this information in each specification..

Changes since last presentation to T

First presentation

Outstanding Issues:

The following areas of the specification still require further work:

- Minimum performance levels
- Standard test signals
- Reference system configurations – some parameters defined, still a number left to do
- Reference radio bearer configurations
- Generic setup procedures: RRC message IEs.
- Generic setup procedures: Session setup (packet data).

Also all existing sections need further review and refinement prior to version 3.0.0.

Contentious Issues:

None

**3rd Generation Partnership Project;
Technical Specification Group Terminals;
Common Test Environments for User Equipment (UE)
Conformance Testing
(3G TS 34.108 version 1.0.0 Release 1999)**



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Reference

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3GPP

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

<http://www.3gpp.org>

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Foreword

This Technical Specification has been produced by the 3GPP.

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

Version x.y.z

where:

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

Introduction

The definition of the Conformance Tests for UE in 3G will be a complex task as the complete test suite covers RF, EMC and Protocol aspects of the UE. Each test will require a Test Environment to be defined in which the UE has to operate to defined standards, constraints and performance. The overall task can be simplified if there are a number of well defined and agreed Common Test Environments where every one can be used for a number of tests.

1 Scope

The present document contains definitions of reference conditions and test signals, default parameters, reference Radio Bearer configurations, common requirements for test equipment and generic set-up procedures for use in UE conformance tests.

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.

[<seq>]	<doctype> <#>[([up to and including]{yyyy[-mm]} V<a[.b[.c]]>){onwards}]: "<Title>".
[1]	3G TS 34.123-1: "Mobile Station (MS) conformance specification; Part 1: Protocol conformance specification"
[2]	3G TS 34.121: "Radio transmission and reception (FDD)"
[3]	3G TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification"
[4]	3G TS 34.124 "Electromagnetic compatibility (EMC) requirements for Mobile terminals and ancillary equipment"
[5]	3G TS 34.122: "Terminal Conformance Specification; Radio transmission and reception (TDD)"
[6]	3G TS 34.109: "Logical Test Interface (FDD) Special conformance testing functions"
[8]	3G TS 25.214: "Physical layer procedures (FDD)"
[9]	3G TR 21.905: "Vocabulary for 3GPP Specifications"
[10]	3G TR 25.990: "Vocabulary"
[11]	3G TS 25.101: "UE Transmission and Reception (FDD)"
[12]	3G TS 25.102: "UE Transmission and Reception (TDD)"

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [9], [10] and the following apply.

Editor's Note : Additional definitions will be inserted as required;

Maximum average power	The average transmitter output power obtained over any specified time interval, including periods with no transmission, when the transmit time slots are at the maximum power setting.
-----------------------	--

3.2 Symbols

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

Symbol	Definition
--------	------------

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in [9], [10] and the following apply:

AFC	Automatic Frequency Control
ATT	Attenuator
HYB	Hybrid
I_{oc}	The power spectral density of a band limited white noise source (simulating interference from other cells) as measured at the UE antenna connector.
OBW	Occupied Bandwidth
OCNS	Orthogonal Channel Noise Simulator, a mechanism used to simulate the users or control signals on the other orthogonal channels of a downlink. Editor's note : a more rigorous definition of this parameter may be required (FFS)
RRC	Root-Raised Cosine

4. Common requirements of test equipment

Mobile conformance testing can be categorised into 3 distinct areas

RF Conformance Testing

EMC Conformance Testing

Signalling Conformance Testing

The test equipment required for each category of testing may or not be different, depending on the supplier of the test equipment. However, there will be some generic requirements of the test equipment that are essential for all three categories of test, and these are specified in this sub-section.

In addition, there will be requirements to test operation in multi-system configurations (eg UTRA plus GSM/DCS1800). However, these would not form a common test equipment requirement for the three test areas and are not considered in this specification.

4.1 General Functional Requirements

Editor's note : This section has been written such that it does not constrain the implementation of different architectures and designs of test equipment.

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either

- a) FDD Mode, or
- b) TDD Mode, or
- c) both FDD/TDD Modes

All test equipment shall provide (for the mode(s) supported) the following minimum functionality

- The capability of emulating a single UTRA cell with the appropriate channels to allow the UE to register on the cell

- The capability to allow the UE to set up an RRC connection with the System Simulator, and to maintain the connection for the duration of the test.
- The capability (for the specific test)
 - to select and support an appropriate Radio Bearer for the downlink
 - to set the appropriate downlink power levels
 - to set up and support the appropriate Radio Bearer for the uplink
 - to set and control the uplink power levels

4.2 Minimum performance levels

Editor's note : The current working assumption in T1/SIG is that Release 99 is FDD Mode only. This sub-section is written on that basis and will need upgrading at a later stage to cover TDD Mode operation

4.2.1 Supported Cell Configuration

The System Simulator shall provide the capability to simulate at least 1 UTRA cell of the appropriate UTRA Mode, and shall support at least the following channels on the simulated Cell

Logical Channel	Transport Channel	Physical Channel	Comments
BCCH	BCH	P-CCPCH	This is the Cell Broadcast Channel, transmitted using the Primary Scrambling Code for the Cell
-	-	CPICH	This is the Primary CPICH using the Primary Scrambling Code for the Cell
-	-	P-SCH, S-SCH	Physical Synchronisation Channels
CCCH	FACH	S-CCPCH	Assumed separate physical channel compared to the Paging Channel
PCCH	PCH	S-CCPCH	Assumed separate physical channel compared to Forward Link Access Channel
-	-	PICH	To identify when the UE should access the PCCH for Paging Messages
DTCH	DCH	DPDCH*n	The number of physical channels (n) required as a common test requirement is expected to be 1, but this is <FFS> Note a) the channels are required on the UL and the DL b) there will be a single associated DPCCH with the DPDCH(s) for Layer 1 signalling
CCCH	RACH	PRACH	The common requirement is for the UE to be able to use the RACH to set up a connection from Idle Mode
-	-	AICH	To signal to the UE that its RACH Preamble has been received and that the Message Part can be transmitted

Editor's note : In the event that the system simulator is capable of simulating more than 1 cell, the minimum requirement is to support Dedicated Channels on only one of the cells.

4.2.2 RF Performance

4.2.2.1 Frequency of Operation

The System Simulator shall be capable of adjusting the Carrier Frequency of the DL channels to any frequency allowed in the DL frequency band. The DL frequency shall be accurate to +/- 2 ppm (TBC).

Editor's note : it is assumed that any additional requirements for frequency accuracy for RF Conformance Testing will be defined in TS 34.121, or TS 34.122.

4.2.2.2 Power Level Setting Accuracy

The system simulator shall be able to adjust the average power output of the DL Channels to meet the absolute accuracy of the system simulator DL power levels covered in 5.4.1 Downlink Signal Levels.

The system simulator shall be capable of altering the power of the DL Dedicated channels under control of the UE Layer 1 Signalling information.

4.2.2.3 Uplink Power Control

The system simulator shall be able to command the UE to transmit at the maximum level for its power class or a lower level required for specific tests. The system simulator shall also provide the capability of generating the Layer 1 Signalling information to set the power levels of the Uplink Dedicated Channels from the UE to lower levels if required.

4.2.2.4 Uplink Signal Handling

The System Simulator shall not be damaged by a Power Class 1 UE transmitting at the maximum power level permitted in [11].

4.2.2.5 Uplink Sensitivity

The simulator shall be able to receive uplink transmissions from the UE when it is transmitting at the minimum power level defined in [11].

Editor's note : this is obviously a useful feature for the system simulator; however it is <ffs> if it should be an essential common requirement for a protocol test system

5. Reference Test Conditions

5.1 Test frequencies

The reference test frequencies for the common test environment in the FDD Band shall be

Test Frequency ID	UARFCN	Frequency of Uplink	Frequency of Downlink
Low Range	189	1923.0 MHz	2113.0 MHz
Mid Range	324	1950.0 MHz	2140.0 MHz
High Range	459	1977.0 MHz	2167.0 MHz

5.2 Radio conditions

There are a number of radio propagation conditions defined in [11] which may be required for a number of tests and hence can be considered as Common Conditions.

Editor's note : The System Simulator is required to support at least the Ideal Propagation Condition; support of the other propagation conditions is optional, depending on the specific test supported by the simulator

5.2.1 Ideal Propagation Condition

This condition provides a connection between the System Simulator that is effectively free from Additive White Gaussian Noise, and where there are no fading or multipath effects. This condition will be used for Signalling tests.

5.2.2 Static Propagation Condition

The propagation for the static performance measurement is an Additive White Gaussian Noise (AWGN) environment. No fading and multi-paths exist for this propagation model.

Editor's note : It is assumed that the AWGN condition will be simulated by I_{oc} .

5.2.3 Multi-Path Fading Propagation Conditions

Table ?? shows propagation conditions that are used for simulating operation in multi-path fading environments. All taps have classical Doppler spectrum.

Table ??: Propagation Conditions for Multi path Fading Environments

Case 1, speed 3km/h		Case 2, speed 3 km/h		Case 3, 120 km/h	
Relative Delay [ns]	Average Power [dB]	Relative Delay [ns]	Average Power [dB]	Relative Delay [ns]	Average Power [dB]
0	0	0	0	0	0
976	-10	976	0	260	-3
		20000	0	521	-6
				781	-9

5.2.4 Moving Propagation Conditions

The conditions that are used for simulating operation in a moving propagation environment consist of a fading channel model. The moving propagation environment has two taps, one static, Path0, and one moving, Path1. The time difference between the two paths is according Equation ??

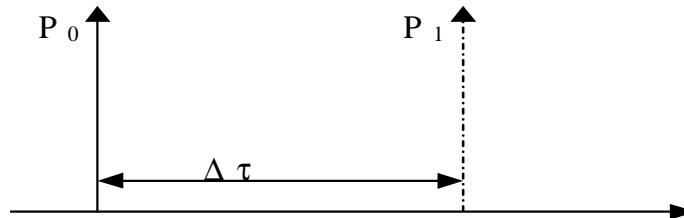


Figure ??: The moving propagation conditions

$$\Delta\tau = \left(1 + \frac{A}{2} (1 + \sin(\Delta\omega \cdot t)) \right) \mu s \quad \text{Equation ??}$$

The parameters in the equation are shown in.

A	5 μs
Δω	$40 \cdot 10^{-3} \text{ s}^{-1}$

5.2.5 Birth-Death propagation conditions

The conditions that are used for simulating operation in a birth-death environment consist of a fading channel with two taps. The simulated environment has two taps, Path1 and Path2 which alternate between 'birth' and 'death'. The positions the paths appear are randomly selected with an equal probability rate and is shown in Figure ??.

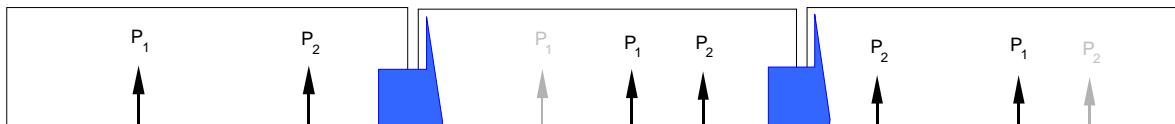


Figure B2: Birth death propagation sequence

Note

1. Two paths, Path1 and Path2 are randomly selected between $-5\mu s$ and $+5\mu s$.
2. After 191 ms, Path1 vanishes and reappears immediately at a new location randomly selected between $-5\mu s$ and $+5\mu s$ but excludes the point Path2.
3. After an additional 191 ms, Path2 vanishes and reappears immediately at a new location randomly selected between $-5\mu s$ and $+5\mu s$ but excludes the point Path1.

The sequence in 2) and 3) is repeated.

5.3 Standard test signals

<FFS>

5.4 Signal levels

5.4.1 Downlink Signal Levels

The System Simulator shall be capable of controlling the absolute power level of the DL channels so that the UE is presented with the agreed Ideal Radio conditions unless the specific test requires different conditions.

The reference channel for the DL power setting is the P-CCPCH and the simulator shall be able to set the power level of this channel at the UE Antenna connection to the level and accuracy shown in the table

Physical Channel	Power Level at UE Antenna Connector		
	Ideal Radio Conditions	Sensitivity Conditions	Maximum Signal Conditions
P-CCPCH	$P_{ref} = <FFS> \text{ dBm } +/- 3\text{dB}$ (TBC).	$P_{ref} = <FFS> \text{ dBm } +/- 1\text{dB}$ (TBC).	$P_{ref} = <FFS> \text{ dBm } +/- 1\text{dB}$ (TBC).
CPICH	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)
P-SCH, S-SCH	$P_{ref} \text{ dBm}$	$P_{ref} \text{ dBm}$	$P_{ref} \text{ dBm}$
S-CCPCH (FACH)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)
S-CCPCH (PCH)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)
PICH	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)	$P_{ref} - <FFS> \text{ dB } +/- 1\text{dB}$ (TBC)
DPDCH*n + DPCCH	<FFS>	<FFS>	<FFS>
OCNS	Not applicable	Necessary power so that total transmit power (I_{or}) adds to one, assuming that $P_{CCPCH_Ec}/I_{or} = -12(\text{TBC}) \text{ dB}$	

Editor's notes

The levels in the table are those to which the downlink common channels operate during Idle Mode operation; the S-CCPCH channels are only transmitted when required. Comments are requested on whether the OCNS power level needs to be altered when the S-CCPCH and Dedicated channels are activated/deactivated.

It is assumed for the moment that under Ideal conditions, the OCNS is not required. It is <ffs> whether there is a requirement to split the Ideal condition into two conditions, with and without OCNS to simulate a heavily loaded cell and an unloaded cell.

It is for <ffs> if the table should include power levels for the DPDCH*n + DPCCH as these will not be fixed if Inner Loop Power Control is in operation. The power levels will also depend on SF of the physical channel. It is suggested that power levels should be given for a number of the SF available and these will apply when the power control is disabled or used as initial values for the channels when power control is enabled.

5.4.2. Uplink Signal Levels

<FFS>

6. Reference System Configurations

This section defines a number of Reference System Configurations which can be used for different tests.

6.1 Simulated network environments

The UE will eventually have to operate in either single mode networks (FDD or TDD) and dual mode networks (FDD+TDD).

This version of the specification covers the simulation of the Single Mode FDD Network only to align with the Release 99 requirements. It will need to be extended in a later version to cover the Single Mode TDD network case. It is <ffs> whether a reference environment needs to be defined for multi-mode networks (eg the environment could be created by combining two appropriate reference environments from the single mode cases).

6.2 Number of neighbour cells

The options for the number of neighbour cells (ie the total number of active cells in the simulated network) are given below

6.2.1 Basic Network

Number of Cells	Use of Network Configuration
1	Basic UE registration; RRC Connection Establishment and Release; operation of dedicated channels in non-handover modes; general RF and EMC testing

6.2.2 Soft Handover Network

Number of Cells	Use of Network Configuration/Constraints
2	Can be used in place of basic network, plus offering operation of dedicated channels in 2 way soft handover or in 2 way SSDT handover for RF or signalling tests; simple cell reselection tests

Editor's note : The RF test requirements are limited to 2-way testing of soft/SSDT handover. It is <ffs> if this number of cells is adequate for the signalling tests.

6.2.3 Hard Handover Network

Number of Cells	Use of Network Configuration
2	Can be used in place of basic network, plus offering operation in 2 cell hard handover (inter-frequency)

6.2.4 'Roaming' Network

Number of Cells	Use of Network Configuration
7	This configuration is intended to provide the capability for extensive cell selection and reselection testing, as defined under Idle Mode Testing. It is <ffs> if 7 is the correct number of cells and also <ffs> is the number of separate RF channels to be supported by the 'Roaming Network'

6.3 Cell/BS codes etc.

<FFS>

Editor's Note : this section will provide reference definitions of Cell/BS Codes for the cells in the specific simulated network, ie there will be a definition given for all cells up to the maximum number of cells in section 6.3. The codes for each cell will include DL Scrambling/OVSF codes for all channels, UL scrambling codes, etc. The relationship between this section and the section on BCCH parameters is <ffs>

6.4 Routing/location area

<FFS>

6.5 Network options settings

<FFS>

6.6 Power control mode

6.6.1 Downlink Power Control

6.6.1.1 Outer Loop Power Control

This is used to set the SIR requirements from the given BER/BLER requirements for the dedicated channel – the reference configuration is for the BER/BLER and SIR requirements to be fixed, ie Outer Loop Power Control is disabled

6.6.1.2 Inner Loop Power Control

The inner loop power control adjusts the power of the dedicated channel to meet the SIR requirements. The reference condition is for the Inner Loop Power Control to be disabled.

Editors note : In RF testing it is likely that the test configuration will set the DL power levels; in signalling testing, the ideal conditions generally used, the error rates will be negligible and so power control is not important.

6.6.2 Uplink Power Control

6.6.2.1 Outer Loop Power Control

This is used to set the SIR requirements from the given BER/BLER requirements for the dedicated channel – the reference configuration is for the BER/BLER and SIR requirements to be fixed, ie Outer Loop Power Control is disabled

6.6.2.2 Inner Loop Power Control

The inner loop power control adjusts the power of the dedicated channel to meet the SIR requirements. The reference condition is for the Inner Loop Power Control to be disabled.

Editors note : In RF testing it is likely that the test configuration will set the UL power level to a high level to avoid uplink errors due to noise/interference; in signalling testing, the ideal conditions generally used, the error rates will be negligible and so power control is not important.

6.7 Tx Diversity modes

The reference settings for Tx Diversity Mode shall be

6.7.1 Non-Diverse Operation

DL Transmit Diversity shall be disabled on all cells in the simulated network

6.7.2 Diverse Operation

The diversity options applied to the DL channels shall be as below for all cells in the simulated network.

Channel	Open loop mode		Closed loop Mode
	TSTD	STTD	
P-CCPCH	–	X	–
SCH	X	–	–
S-CCPCH	–	X	–
DPCCH	–	X	–
PICH	–	X	–
AICH	–	X	–

6.8 Compressed Mode Parameters

The reference configuration is that Compressed Mode is disabled, except when the Hard Handover (inter-frequency network configuration is being used). It is necessary to define a set of compressed mode parameters to be used for inter-frequency hard handover.

6.8.1 Normal Operation

Downlink Compressed Mode – disabled

Uplink Compressed Mode – disabled

6.8.2 Inter-Frequency Hard Handover

Downlink compressed Mode – enabled

Parameters

Downlink Compression Method

SF Reduction

Left/Right Alternative DL Scrambling Codes
No

Compressed Mode Sequence and Parameters

- Frame Structure Type A
- SFN for first transmission gap
- Fixed Gap Position
- TGL = 7
- Double Slot Gap
- TGP
- TGD
- PD

Uplink Compressed Mode - disabled

Editor's note : it should be possible to set up a repeating pattern of defined DL compressed frames, eg with start points of SFN_1 and SFN_1 + (PD * TGP) * n.

6.9 BCCH parameters

Editor's note : these will be extracted from TS 25.331.

6.10 Reference Radio Bearer configurations

<ffs>

6.11 Default Test USIM parameters

6.11.1 Introduction

This section defines default parameters for programming the elementary files of the test USIM. The requirements of this section do not apply to the USIM/ME tests of TS34.123-1 section<TBD>.

6.11.1.1 Definitions

"Test USIM card":

A USIM card supporting the test algorithm for authentication, programmed with the parameters defined in this section. The electrical, mechanical and environmental requirements of the test USIM card are specified in TS31.101 and TS31.102.

"Test USIM":

Either a test USIM card or the USIM simulator programmed with the parameters defined in this section.

6.11.1.2 Definition of the test algorithm for authentication

The following procedure employs bit wise modulo 2 addition ("XOR")

The following convention applies:

In all data transfer the most significant byte is the first byte to be sent; data is represented so that the left most bit is the most significant bit of the most significant byte.

Step 1:

XOR to the challenge RAND, a predefined number Ki, having the same bit length (128 bits) as RAND. The result RES1 of this is

$$\text{RES1} = \text{RAND} \text{ XOR } \text{Ki}$$

Step 2:

The most significant 32 bits of RES1 form SRES. The next 64 bits of RES1 form Kc. The remaining 32 bits are not used.

6.11.2 Default Parameters for the test USIM

Ki:

The authentication key "Ki" will be chosen by the test house and will be non zero. The "Ki" value used by the SS will align with this value.

PIN Disabling

The PIN enabled / disabled flag will be set to "PIN Disabled". This ensures that when the Test USIM is inserted into a UE the user will not be prompted for PIN entry. This requires a specific card capability defined by the USIM service table (see section<TBD>).

6.11.3 Default settings for the Elementary Files (EFs)

The format and coding of elementary files of the USIM are defined in TS31.101 and TS31.102. The following sections define the default parameters to be programmed into each elementary file. Some files may be updated by the UE based on information received from the SS. These are identified in the following sections.

If EFs have an unassigned value, it may not be clear from the main text what this value should be. This section suggests values in these cases.

File directory	EF Contents	Description	Value <all contents are TBD>
MF	EF _{DIR}		
MF	EF _{ICCID}	ICC Identification	test house option
MF	EF _{PL}	Preferred languages	test house option
MF/USIM	EF _{LI}	Language indication	'FF'
MF/USIM	EF _{IMSI}	IMSI	test house option
MF/USIM	EF _{Keys}	Ciphering and Integrity Keys	
MF/USIM	EF _{KeysPs}	Ciphering and Integrity Keys for Packet Switched domain	
MF/USIM	EF _{PLMNsel}	PLMN selector	'FF...FF'
MF/USIM	EF _{HPLMN}	HPLMN search period	'00'
MF/USIM	EF _{ACMmax}	ACM maximum value	'000000' (see note 1)
MF/USIM	EF _{UST}	USIM service table	test house option
MF/USIM	EF _{ACM}	Accumulated call meter	'000000'
MF/USIM	EF _{GID1}	Group Identifier Level 1	test house option
MF/USIM	EF _{GID2}	Group Identifier Level 2	test house option
MF/USIM	EF _{SPN}	Service Provider Name	'FF...FF'
MF/USIM	EF _{PUCT}	Price per unit and currency table	'FFFFFF0000'
MF/USIM	EF _{CBMI}	Cell broadcast message identifier selection	'FF...FF'
MF/USIM	EF _{ACC}	Access control class	'00**'
MF/USIM	EF _{FPLMN}	Forbidden PLMNs	'FF...FF'
MF/USIM	EF _{LOCI}	Location information	'FFFFFFFF 42F618 FFFE FF 01'
MF/USIM	EF _{AD}	Administrative data	'80FFFF'
MF/USIM	EF _{CBMID}	Cell Broadcast Message Identifier for Data Download	'FF...FF'
MF/USIM	EF _{ECC}	Emergency Call Codes	
MF/USIM	EF _{CBMIR}	Cell broadcast message identifier range selection	'FF...FF'
MF/USIM	EF _{PSLOCI}	Packet Switched location information	
MF/USIM	EF _{FDN}	Fixed dialling numbers	'FF...FF'
MF/USIM	EF _{SMS}	Short messages	'00FF...FF'
MF/USIM	EF _{MSISDN}	MSISDN	'FF...FF'
MF/USIM	EF _{SMSP}	Short message service parameters	'FF...FF'
MF/USIM	EF _{SMSS}	SMS status	'FF...FF'
MF/USIM	EF _{SDN}	Service Dialling Numbers	'FF...FF'
MF/USIM	EF _{EXT2}	Extension 2	'FF...FF'
MF/USIM	EF _{EXT3}	Extension 3	'FF...FF'
MF/USIM	EF _{SMSR}	Short message status reports	'00FF...FF'
MF/USIM	EF _{ICI}	Incoming Call Information	
MF/USIM	EF _{OCI}	Outgoing Call Information	
MF/USIM	EF _{ICT}	Incoming Call Counter	
MF/USIM	EF _{OCT}	Outgoing Call Counter	
MF/USIM	EF _{EXT5}	Extension5	
MF/USIM	EF _{CCP2}	Capability configuration parameters2	'FF...FF'
MF/USIM	EF _{eMLPP}	enhanced Multi Level Precedence and Pre-emption	
MF/USIM	EF _{AAeM}	Automatic Answer for eMLPP Service	
MF/USIM	EF _{GMSI}	Group Identity	'00
MF/USIM	EF _{Hiddenkey}	Keys for hiddenphone book entries	
MF/USIM	EF _{Kc}	Ciphering key Kc	'FF...FF07'
MF/USIM	EF _{KcGPRS}	GPRS Ciphering key KcGPRS	'FF...FF07'
MF/USIM	EF _{LOCIGPRS}	GPRS location information	'FFFFFF FFFFFF xxFxxx 0000 FF 01'
MF/USIM	EF _{LOCI2G}	Location information for 2G access	
MF/USIM	EF _{BCCH}	Broadcast control channels	'FF...FF'
MF/USIM/DF-SoLSA	EF _{SAI}	SoLSA Access Indicator	'00FF...FF'
MF/USIM/DF-SoLSA	EF _{SLL}	SoLSA LSAList	'FF...FF'
MF/USIM/DF-SoLSA		LSA Descriptor files	
MF/USIM/DF-DF-PHONEBOOK	EF _{PBR}	Phone Book Reference	

File directory	EF Contents	Description	Value <all contents are TBD>
MF/USIM/DF-DF-PHONEBOOK	EF _{IAP}	Index Administration file	
MF/USIM/DF-DF-PHONEBOOK	EF _{ADN}	Abbreviated dialling numbers	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	EF _{EXT1}	Extension 1	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	EF _{PBC}	Phone book control	
MF/USIM/DF-DF-PHONEBOOK	EF _{GRP}	Grouping file	
MF/USIM/DF-DF-PHONEBOOK	EF _{AAS}	Additional number Alpha string	
MF/USIM/DF-DF-PHONEBOOK	EF _{GAS}	Grouping information Alpha String	
MF/USIM/DF-DF-PHONEBOOK	EF _{ANR}	Additional Number	
MF/USIM/DF-DF-PHONEBOOK	EF _{SNE}	Second Name Entry	
MF/USIM/DF-DF-PHONEBOOK	EF _{CCP1}	Capability configuration parameters 1	
MF/USIM/DF-DF-PHONEBOOK	EF _{UID}	Unique Identifier	
MF/USIM/DF-DF-PHONEBOOK	EF _{PSC}	Phone book Synchronisation Counter	
MF/USIM/DF-DF-PHONEBOOK	EF _{CC}	Change Counter	
MF/USIM/DF-DF-PHONEBOOK	EF _{PUID}	Previous Unique Identifier	
MF/TELECOM	EF _{ADN}	Abbreviated dialling numbers	
MF/TELECOM	EF _{EXT1}	Extension 1	
MF/TELECOM	EF _{CCP}	Capability configuration parameters	'0101A0FF'
MF/TELECOM	EF _{SUME}	SetUpMenue Elements	<i>test house option</i>
MF/TELECOM/DF-Graphics	EF _{IMG}	Image	
MF/TELECOM/DF-Graphics		Image Instance Data Files	

NOTE 1: The value '000000' means that ACMmax is not valid, i.e. there is no restriction on the ACM. When assigning a value to ACMmax, care should be taken not to use values too close to the maximum possible value 'FFFFFF', because the INCREASE command does not update EF_{ACM} if the units to be added would exceed 'FFFFFF'. This could affect the call termination procedure of the Advice of Charge function.

NOTE 2: xxFxxx stands for any valid MCC and MNC, coded according to 3G TS 24.008 [9].

6.11.3.1 Contents of the EFs at the MF level

6.11.3.1.1 EF_{DIR}

6.11.3.1.2 EF_{ICCID} (ICC Identity)

The programming of this EF is a test house option.

6.11.3.1.3 EF_{PL} (Preferred Languages)

6.11.3.2 Contents of files at the USIM ADF (Application DF) level

6.11.3.2.1 EF_{LI} (Language Indication)6.11.3.2.2 EF_{IMSI} (IMSI)

The IMSI value will be chosen by the test house. The IMSI used by the SS will align this value.

File size: 9 bytes

Default values: Byte 1 (DEC): 8

Bytes 2-9 (HEX): 09 10 10 *** * * * *

"*" indicates any number between 0 and 9 subject to the restriction that IMSI mod 1000 (i.e. bytes 7, 8 and 9) lies in one of the following ranges:

063-125, 189-251, 315-377, 441-503, 567-629, 693-755, 819-881 or 945-999

NOTE: This ensures that the UE can listen to the second CCCH when more than one basic physical channel is configured for the CCCH. This is necessary for the test of "paging re-organization".

6.11.3.2.3 EF_{Keys} (Ciphering and Integrity Keys)6.11.3.2.4 EF_{KeysPS} (Ciphering and Integrity Keys for Packet Switched domain)6.11.3.2.5 EF_{PLMNsel} (PLMN selector)

File size: 102 bytes

Default values (HEX): Bytes 1-3: 32 F4 10 (MCC, MNC) - Translates to 234, 01

Bytes 4-6: 32 F4 20 (MCC, MNC)

Bytes 7-9: 32 F4 30 (MCC, MNC)

....

....

....

Bytes 94-96: 32 F4 23 (MCC, MNC)

Bytes 97-99: 32 F4 33 (MCC, MNC)

Bytes 100-102: 32 F4 43 (MCC, MNC)

34 PLMNs are shown coded above since this is the largest number required for a test - see section <TBD>. It is necessary to take this into account since the USIM cards must be dimensioned to cope with this number of records.

6.11.3.2.6 EF_{HPLMN} (HPLMN search period)*File size:* 1 byte*Default value (HEX):* 00 (no HPLMN search attempts)6.11.3.2.7 EF_{ACMmax} (ACM maximum value)*File size:* 3 bytes*Default:* Byte 1: 00

Byte 2: 00

Byte 3: 00

*The above translates to: "Not valid".*6.11.3.2.8 EF_{UST} (USIM Service Table)*Services will be allocated and activated as follows:*

Services		Allocated	Activated
Service n°1 :	<i>Local Phone Book</i>		
Service n°2 :	<i>Fixed Dialling Numbers (FDN): FFS</i>		
Service n°3 :	<i>Extension 2</i>		
Service n°4 :	<i>Service Dialling Numbers (SDN)</i>		
Service n°5 :	<i>Extension3</i>		
Service n°6 :	<i>Barred Dialling Numbers (BDN): FFS</i>		
Service n°7 :	<i>Extension4</i>		
Service n°8 :	<i>Outgoing Call Information (OCI and OCT)</i>		
Service n°9 :	<i>Incoming Call Information (ICI and ICT)</i>		
Service n°10:	<i>Short Message Storage (SMS)</i>		
Service n°11:	<i>Short Message Status Reports (SMSR)</i>		
Service n°12:	<i>Short Message Service Parameters (SMSP)</i>		
Service n°13:	<i>Advice of Charge (AoC)</i>		
Service n°14:	<i>Capability Configuration Parameters (CCP)</i>		
Service n°15:	<i>Cell Broadcast Message Identifier</i>		
Service n°16:	<i>Cell Broadcast Message Identifier Ranges</i>		
Service n°17:	<i>Group Identifier Level 1</i>		
Service n°18:	<i>Group Identifier Level 2</i>		
Service n°19:	<i>Service Provider Name</i>		
Service n°20:	<i>PLMN selector</i>		
Service n°21:	<i>MSISDN</i>		
Service n°22:	<i>Image (IMG)</i>		
Service n°23:	<i>SolSA (Support of Local Service Area)</i>		
Service n°24:	<i>Enhanced Multi-Level Precedence and Pre-emption Service</i>		
Service n°25:	<i>Automatic Answer for Empp</i>		
Service n°26:	<i>EUIC (Enhanced User Identity Confidentiality)</i>		
Service n°27:	<i>2G Access</i>		
Service n°28:	<i>Data download via SMS-PP</i>		
Service n°29:	<i>Data download via SMS-CB</i>		
Service n°30:	<i>Call Control by USIM</i>		
Service n°31:	<i>MO-SMS Control by USIM</i>		
Service n°32:	<i>RUN AT COMMAND command</i>		
Service n°33:	<i>Packet Switched Domain</i>		

6.11.3.2.9 EF_{ACM} (Accumulated Call Meter)

File size: 3 bytes

Default: Byte 1: 00

Byte 2: 00

Byte 3: 00

The above translates to: "Not yet implemented".

6.11.3.2.10 EF_{GID1} (Group Identifier Level 1)

6.11.3.2.11 EF_{GID2} (Group Identifier Level 2)

6.11.3.2.12 EF_{SPN} (Service Provider Name)

6.11.3.2.13 EF_{PUCT} (Price per Unit and Currency Table)

File size: 5 bytes

Default: Byte 1-3: FF

Byte 4-5: 00

6.11.3.2.14 EF_{CBMI} (Cell Broadcast Message identifier selection)

The programming of this EF is a test house option.

The file size is 2n bytes, where n is the number of Cell broadcast message identifier records - each record defining a type of Cell Broadcast message which may be accessed by the UE. Care should be taken when dimensioning the USIM to take into account the number of Cell Broadcast message identifier records required.

6.11.3.2.15 EF_{ACC} (Access Control Class)

File size: 2 Bytes

Default values (BIN): Byte 1: 00000000

Byte 2: *****

The test house may set any single bit of byte 2 to "1". All remaining bits of byte 2 will be set to "0". This determines the access control class of the USIM.

6.11.3.2.16 EF_{FPLMN} (Forbidden PLMNs)

Length: 12 Bytes

Format (HEX): Bytes 1-3: FF FF FF

Bytes 4-6: FF FF FF

Bytes 7-9: FF FF FF

Bytes 10-12: FF FF FF

This coding corresponds to an empty "forbidden PLMN list". The bytes within this file may be updated if a LOCATION UPDATE REJECT message is received by the UE with cause, "PLMN not allowed".

6.11.3.2.17 EF_{LOCI} (Location Information)

File size: 11 Bytes

Default values: Bytes 1-4 (HEX): FF FF FF FF (TMSI)

Bytes 5-9 (HEX): 42 F6 18 FF FE (LAI)

Byte 10 (HEX): FF (Periodic LU Time = "the timer is not running")

Byte 11 (BIN): 00000001 (Location Update Status = "not updated")

Bytes 5-9: LAI-MCC = 246 (bytes 5-6) and LAI-MNC = 81 (byte 7) are frequently used in section 27. The LAC (bytes 8-9) is set to "FF FE" since this, in conjunction with byte 11 setting of "01", is used to ensure that the UE performs a location update at the beginning of a test.

Bytes in this file (e.g. TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

6.11.3.2.18 EF_{AD} (Administrative Data)

File size: 3 bytes

Default values Byte 1: 10000000 - (type approval operations)

Byte 2: 1111111

Byte 3: 1111111

- 6.11.3.2.19 EF_{CBMID} (Cell Broadcast Message Identifier for Data Download)
- 6.11.3.2.20 EF_{ECC} (Emergency Call Codes)
- 6.11.3.2.21 EF_{CBMIR} (Cell Broadcast Message Identifier Range selection)
- 6.11.3.2.22 EF_{PSLOCI} (Packet Switched location information)
- 6.11.3.2.23 EF_{FDN} (Fixed Dialling Numbers)
- 6.11.3.2.24 EF_{SMS} (Short messages)

Default: Records 1-5

<i>Byte 1:</i>	<i>00</i>
<i>Byte 2:</i>	<i>FF</i>
<i>Bytes 3-14:</i>	<i>FF FF FF</i>
<i>Bytes 15-26:</i>	<i>FF FF FF</i>
<i>Byte 27:</i>	<i>FF</i>
<i>Byte 28:</i>	<i>FF</i>
<i>Bytes 29-35:</i>	<i>FF FF FF FF FF FF FF</i>
<i>Byte 36:</i>	<i>FF</i>
<i>Bytes 37-176:</i>	<i>All Bytes set to FF</i>

- 6.11.3.2.25 EF_{MSISDN} (MSISDN)

Optional.

- 6.11.3.2.26 EF_{SMSP} (Short message service parameters)

The programming of this EF is a test house option.

Each record size is 28+Y bytes, where Y is the number of bytes in the Alpha Identifier. Care should be taken when dimensioning the USIM to take into account the number of Short message service parameter records required.

- 6.11.3.2.27 EF_{SMSS} (SMS status)

File size: 2 bytes

<i>Byte 1:</i>	<i>00</i>
<i>Byte 2 (BIN):</i>	<i>11111111</i>

The above translates to:

- (a) *Last Mobile Originated Short Message had a TP Message Reference parameter of “00”.*
- (b) *SMS Memory Capacity Exceeded, Notification Flag unset: memory capacity available.*

- 6.11.3.2.28 EF_{SDN} (Service Dialling Numbers)
- 6.11.3.2.29 EF_{EXT2} (Extension2)
 - Optional.*
- 6.11.3.2.30 EF_{EXT3} (Extension3)
- 6.11.3.2.31 EF_{SMSR} (Short message status reports)
- 6.11.3.2.32 EF_{ICI} (Incoming Call Information)
- 6.11.3.2.33 EF_{OCl} (Outgoing Call Information)
- 6.11.3.2.34 EF_{ICT} (Incoming Call Timer)
- 6.11.3.2.35 EF_{OCT} (Outgoing Call Timer)
- 6.11.3.2.36 EF_{EXT5} (Extension5)
- 6.11.3.2.37 EF_{CCP2} (Capability Configuration Parameters 2)
- 6.11.3.2.38 EF_{eMLPP} (enhanced Multi Level Precedence and Pre-emption)
- 6.11.3.2.39 EF_{AAeM} (Automatic Answer for eMLPP Service)
- 6.11.3.2.40 EF_{GMSI} (Group Identity)
- 6.11.3.2.41 EF_{Hiddenkey} (Key for hidden phone book entries)
- 6.11.3.2.42 Files required for 2G Access
- 6.11.3.2.42.1 EF_{Kc} (Ciphering key Kc)

File size: 9 Bytes

Default values (HEX): Bytes 1-8: Align with Kc used by SS

Byte 9:07

Byte 9 is set to 07 to indicate that there is no key available at the start of a test.

The bytes within this elementary file may be updated by the UE as a result of a successful authentication attempt.

- 6.11.3.2.42.2 EF_{KcGPRS} (GPRS Ciphering key KcGPRS)
- 6.11.3.2.42.3 EF_{LOCIGPRS} (GPRS location information)
- 6.11.3.2.42.4 EF_{LOCI2G} (Location Information for 2G access)
- 6.11.3.2.42.5 EF_{BCCH} (Broadcast Control Channels)

File size: 16 Bytes

Default values (BIN):

Bytes 1-2:	11111111 11111111
Bytes 3-4:	11111111 11111111
Bytes 5-6:	11111111 11111111
Bytes 7-8:	11111111 11111111
Bytes 9-10:	11111111 11111111
Bytes 11-12:	11111111 11111111
Bytes 13-14:	11111111 11111111
Bytes 15-16:	11111111 11111111

This field may be updated dependent on the UE implementation.

6.11.3.3 Contents of DFs at the USIM ADF (Application DF) level

- 6.11.3.3.1 Contents of files at the USIM ADF (Application DF) level
 - 6.11.3.3.1.1 EF_{SAI} (SoLSA Access Indicator)
 - 6.11.3.3.1.2 EF_{SLL} (SoLSA LSA List)
 - 6.11.3.3.1.3 LSA Descriptor files
- 6.11.3.3.2 Contents of files at the DF PHONEBOOK level
 - 6.11.3.3.2.1 EF_{PBR} (Phone Book Reference file)
 - 6.11.3.3.2.2 EF_{IAP} (Index Administration Phone book)
 - 6.11.3.3.2.3 EF_{ADN} (Abbreviated dialling numbers)
 - 6.11.3.3.2.4 EF_{EXT1} (Extension1)

Optional.

- 6.11.3.3.2.5 EF_{PBC} (Phone Book Control)
- 6.11.3.3.2.6 EF_{GRP} (Grouping file)
- 6.11.3.3.2.7 EF_{AAS} (Additional number Alpha String)
- 6.11.3.3.2.8 EF_{GAS} (Grouping information Alpha String)
- 6.11.3.3.2.9 EF_{ANR} (Additional Number)
- 6.11.3.3.2.10 EF_{SNE} (Second Name Entry)
- 6.11.3.3.2.11 EF_{CCP1} (Capability Configuration Parameters 1)
- 6.11.3.3.2.12 Phone Book Synchronisation
- 6.11.3.3.2.12.1 EF_{UID} (Unique Identifier)
- 6.11.3.3.2.12.2 EF_{PSC} (Phone book Synchronisation Counter)
- 6.11.3.3.2.12.3 EF_{CC} (Change Counter)
- 6.11.3.3.2.12.4 EF_{PUID} (Previous Unique Identifier)

6.11.3.4 Contents of DFs at the TELECOM level

- 6.11.3.4.1 EF_{ADN} (Abbreviated dialling numbers)

The programming of this EF is a test house option. It should be noted that sufficient space should be provided on the USIM card for 101 records - see section <TBD><27.15.4.1.>

- 6.11.3.4.2 EF_{EXT1} (Extension1)
- 6.11.3.4.3 EF_{CCP} (Capability Configuration Parameter)
 - File size:* 14 bytes
 - Default values*
 - Byte 1: 04
 - Byte 2: 01
 - Byte 3: A0
 - Bytes 4-14: FF

<The above translates to: "Full rate, GSM Standardized coding, circuit mode and speech".>

6.11.3.4.4 EF_{SUME} (SetUpMenu Elements)

6.11.3.5 Contents of DFs at the TELECOM level

6.11.3.5.1 Contents of files at the DF_{GRAPHICS} level

6.11.3.5.1.1 EF_{IMG} (Image)

6.11.3.5.1.2 Image Instance Data Files

6.11.3.5.2 Contents of files at the DF_{PHONEBOOK} under the DF_{TELECOM}

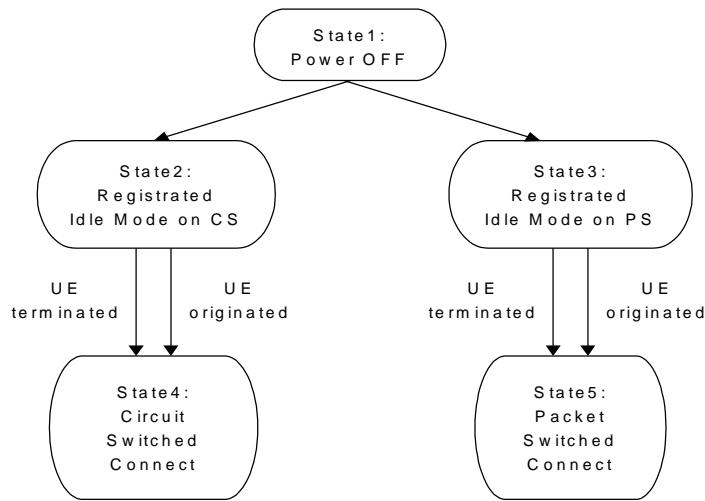
6.11.3.5.2.1 EF_{CCP} (Capability Configuration Parameters)

6.11.3.6 Files of USIM

7 Generic setup procedures

7.1 Hierarchical Manner

In this sub clause, the states of the UE for the test are defined



		RRC	CC	MM	SM	GMM
State1	Power OFF	-----	null	detached	inactive	detached
State2	CS Registered Idle Mode	idle	null	idle	inactive	detached
State3	PS Registered Idle Mode	idle	null	detached	inactive	idle
State3	Circuit Switched Connect	connected	active	connected	inactive	detached
State4	Packet Switched Connect	connected	null	detached	active	connected

7.2 Registration of UE

7.2.1 Registration on CS

7.2.1.1 Initial condition

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.1.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.2.1.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	NW Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
5	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
6	-->		LOCATION UPDATING REQUEST	MM
7	<--		AUTHENTICATION REQUEST	MM
8	-->		AUTHENTICATION RESPONSE	MM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	<--		LOCATION UPDATING ACCEPT	MM
12	-->		TMSI RELOCATION COMPLETE	MM
13	<--		RRC CONNECTION RELEASE	RRC
14	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.2.1.4 Specific message contents

SYSTEM INFORMATION (BCCH) to the UE

Information Element	Value/remark

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	

Information Element	Value/remark
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	

AUTHENTICATION REQUEST to the UE

Information Element	Value/remark
Mobility management protocol discriminator	
Skip Indicator	
Authentication Request message type	
Ciphering key sequence number	
Spare half octet	
Authentication parameter RAND	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

LOCATION UPDATING ACCEPT to the UE

Information Element	Value/remark
Mobility management protocol discriminator	
Skip Indicator	
Location Updating Accept message type	
Location area identification	
Mobile identity	
Follow on proceed	
CTS permission	

RRC CONNECTION RELEASE to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
Release cause	
Number of RRC Message Transmissions	

7.2.2 Registration on PS

7.2.2.1 Initial condition

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.2.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.2.2.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	NW Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
5	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
6	-->		ATTACH REQUEST	GMM
7	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
8	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	<--		ATTACH ACCEPT	GMM
12	-->		ATTACH COMPLETE	GMM
13	<--		RRC CONNECTION RELEASE	RRC
14	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.2.2.4 Specific message contents

SYSTEM INFORMATION (BCCH) to the UE

Information Element	Value/remark

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	

Information Element	Value/remark
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	

AUTHENTICATION AND CIPHERING REQUEST to the UE

Information Element	Value/remark
Protocol discriminator	
Skip indicator	
Authentication and ciphering request message identity	
Ciphering algorithm	
IMEISV request	
Force to standby	
A&C reference number	
Authentication parameter RAND	
GPRS ciphering key sequence number	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

ATTACH ACCEPT to the UE

Information Element	Value/remark
Protocol discriminator	
Skip indicator	
Attach accept message identity	
Attach result	
Force to standby	
Periodic RA update timer	
Radio priority for SMS	
Spare half octet	
Routing area identification	
P-TMSI signature	
Negotiated READY timer value	
Allocated P-TMSI	
MS identity	
GMM cause	

RRC CONNECTION RELEASE to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
Release cause	
Number of RRC Message Transmissions	

7.3 Call setup

In the test procedures described in this EN, unless otherwise stated in the test description, the Mobile Terminating Speech call set-up procedure shall be as described in this subclause.

7.3.1 Generic call set up procedure for mobile terminating circuit switched calls

7.3.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.3.1.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.3.1.3 Procedure

Setup shall be done under ideal radio conditions.

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
6	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
7	-->		PAGING RESPONSE	RR
8	<--		AUTHENTICATION REQUEST	MM
9	-->		AUTHENTICATION RESPONSE	MM
10	<--		SECURITY MODE COMMAND	RRC
11	-->		SECURITY MODE COMPLETE	RRC
12	<--		SET UP	CC
13	-->		CALL CONFIRMED	CC
14	<--		RADIO BEARER SETUP	RRC RAB SETUP
15	-->		RADIO BEARER SETUP COMPLETE	RRC
16	-->		ALERTING	CC
17	-->		CONNECT	CC
18	<--		CONNECT ACKNOWLEDGE	CC

7.3.1.4 Specific message contents

SYSTEM INFO (BCCH) to the UE

Information Element	Value/remark

PAGING (PCCH) to the UE

Information Element	Value/remark

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	

Information Element	Value/remark
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	

AUTHENTICATION REQUEST to the UE

Information Element	Value/remark
Mobility management protocol discriminator	
Skip Indicator	
Authentication Request message type	
Ciphering key sequence number	
Spare half octet	
Authentication parameter RAND	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

SET UP to the UE

Information Element	Value/remark
Call control protocol discriminator	
Transaction identifier	
Setup Meassage type	
BC repeat indicator	
Bearer capability 1	
Bearer capability 2	
Facility	
Progress indicator	
Signal	
Calling party BCD number	
Calling party sub-address	
Called party BCD number	
Called party sub-address	
Redirecting party BCD number	
Redirecting party sub-address	
LLC repeat indicator	
Low layer compatibility I	
Low layer compatibility II	
HLC repeat indicator	
High layer compatibility i	
High layer compatibility ii	
User-user	
Priority	
Alert	

RADIO BEARER SETUP to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN information elements	
NAS binding info	
CN domain identity	
UE Information elements	
Activation time	
New C-RNTI	
New U-RNTI	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Ciphering mode info	
CN information elements	
PLMN identity	
CN common GSM-MAP NAS system information	
CN domain related information	
CN domain identity	
CN domain specific GSM-MAP NAS system info	
RB information elements	
RB information to setup	
>RB identity	
>PDCP info	
>CHOICE RLC info type	
>>RLC info	
>RB mapping info	
RB information to be affected	
>RB identity	
>RB mapping info	
TrCH Information Elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>TFCS Identity	
TFC subset	
Uplink transport channels	
Deleted TrCH information	
>Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
CHOICE mode	
>FDD	
>>CPCH set ID	
>>DRAC information	
>>>Dynamic Control	
>>>Transmission time validity	
>>>Time duration before retry	
>>>Silent period duration before release	
Downlink transport channels	
Deleted TrCH information	
Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
PhyCH information elements	
Frequency info	
Uplink radio resources	

Information Element	Value/remark
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH Info (for RACH)	
>CHOICE mode	
>>FDD	
>>>PRACH info (for FAUSCH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
>References to system information blocks	
>>Scheduling information	
CHOICE mode	
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

CONNECT ACKNOWLEDGE to the UE

Information Element	Value/remark
Call control protocol discriminator	
Transaction identifier	
Connect acknowledge message type	

7.3.2 Generic call set-up procedure for mobile originating circuit switched calls

7.3.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.3.2.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.3.2.3 Procedure

Setup shall be done under ideal radio conditions.

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
5	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
6	-->		PAGING RESPONSE	RR
7	<--		AUTHENTICATION REQUEST	MM
8	-->		AUTHENTICATION RESPONSE	MM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	-->		SET UP	CC
12	<--		CALL PROCEEDING	CC
13	<--		RADIO BEARER SETUP	RRC RAB SETUP
14	-->		RADIO BEARER SETUP COMPLETE	RRC
15	<--		ALERTING	CC
16	<--		CONNECT	CC
17	-->		CONNECT ACKNOWLEDGE	CC

7.3.2.4 Specific message contents

SYSTEM INFORMATION (BCCH) to the UE

Information Element	Value/remark

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	

Information Element	Value/remark
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message type	
UE information elements	
Integrity check info	

AUTHENTICATION REQUEST to the UE

Information Element	Value/remark
Mobility management protocol discriminator	
Skip Indicator	
Authentication Request message type	
Ciphering key sequence number	
Spare half octet	
Authentication parameter RAND	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

CALL PROCEEDING to the UE

Information Element	Value/remark
Call control protocol discriminator	
Transaction identifier	
Call proceeding message type	
Repeat Indicator	
Bearer capability 1	
Bearer capability 2	
Facility	
Progress indicator	
Priority granted	

RADIO BEARER SETUP to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN information elements	
NAS binding info	
CN domain identity	
UE Information elements	
Activation time	
New C-RNTI	
New U-RNTI	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Ciphering mode info	
CN information elements	
PLMN identity	
CN common GSM-MAP NAS system information	
CN domain related information	
CN domain identity	
CN domain specific GSM-MAP NAS system info	
RB information elements	
RB information to setup	
>RB identity	
>PDCP info	
>CHOICE RLC info type	
>>RLC info	
>RB mapping info	
RB information to be affected	
>RB identity	
>RB mapping info	
TrCH Information Elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>TFCS Identity	
TFC subset	
Uplink transport channels	
Deleted TrCH information	
>Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
CHOICE mode	
>FDD	
>>CPCH set ID	
>>DRAC information	
>>>Dynamic Control	
>>>Transmission time validity	
>>>Time duration before retry	
>>>Silent period duration before release	
Downlink transport channels	
Deleted TrCH information Transport channel identity	
>Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
PhyCH information elements	
Frequency info	
Uplink radio resources	

Information Element	Value/remark
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH Info (for RACH)	
>CHOICE mode	
>>FDD	
>>>PRACH info (for FAUSCH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
>References to system information blocks	
>>Scheduling information	
CHOICE mode	
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

ALERTING to the UE

Information Element	Value/remark
Call control protocol discriminator	
Transaction identifier	
Alerting message type	
Facility	
Progress indicator	
User-user	

CONNECT to the UE

Information Element	Value/remark
Call control protocol discriminator	
Transaction identifier	
Connect message type	
Facility	
Progress indicator	
Connected number	
Connected sub-address	
User-user	

7.4 Session setup

7.4.1 Generic session set up procedure for mobile terminating packet switched sessions

7.4.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.4.1.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.4.1.3 Procedure

Setup shall be done under ideal radio conditions.

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING TYPE1 (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
6	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
7	-->		SERVICE REQUEST	GMM
8	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
9	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
10	<--		SECURITY MODE COMMAND	RRC
11	-->		SECURITY MODE COMPLETE	RRC
12	<--		REQUEST PDP CONTEXT ACTIVATION	SM
13	-->		ACTIVATE PDP CONTEXT REQUEST	SM
14	<--		RADIO BEARER SETUP	RRC RAB SETUP
15	-->		RADIO BEARER SETUP COMPLETE	RRC
16	<--		ACTIVATE PDP CONTEXT ACCEPT	SM

7.4.1.4 Specific message contents

SYSTEM INFO (BCCH) to the UE

Information Element	Value/remark

PAGING TYPE1 (PCCH) to the UE

Information Element	Value/remark
Message Type	
UE Information elements	
Paging record	
Other information elements	
BCCH modification info	

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	
>FDD	
>>SSDT indicator	

Information Element	Value/remark
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	

AUTHENTICATION AND CIPHERING REQUEST to the UE

Information Element	Value/remark
Protocol discriminator	
Skip indicator	
Authentication and ciphering request message identity	
Ciphering algorithm	
IMEISV request	
Force to standby	
A&C reference number	
Authentication parameter RAND	
GPRS ciphering key sequence number	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

REQUEST PDP CONTEXT ACTIVATION to the UE

Information Element	Value/remark
Protocol discriminator	
Transaction identifier	
Request PDP context activation message identity	
Offered PDP address	
Access point name	

RADIO BEARER SETUP to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN information elements	
NAS binding info	
CN domain identity	
UE Information elements	
Activation time	
New C-RNTI	
New U-RNTI	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Ciphering mode info	
CN information elements	
PLMN identity	
CN common GSM-MAP NAS system information	
CN domain related information	
CN domain identity	
CN domain specific GSM-MAP NAS system info	
RB information elements	
RB information to setup	
>RB identity	
>PDCP info	
>CHOICE RLC info type	
>>RLC info	
>RB mapping info	
RB information to be affected	
>RB identity	
>RB mapping info	
TrCH Information Elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>TFCS Identity	
TFC subset	
Uplink transport channels	
Deleted TrCH information	
>Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
CHOICE mode	
>FDD	
>>CPCH set ID	
>>DRAC information	
>>>Dynamic Control	
>>>Transmission time validity	
>>>Time duration before retry	
>>>Silent period duration before release	
Downlink transport channels	
Deleted TrCH information	
Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
PhyCH information elements	
Frequency info	
Uplink radio resources	

Information Element	Value/remark
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH Info (for RACH)	
>CHOICE mode	
>>FDD	
>>>PRACH info (for FAUSCH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
>References to system information blocks	
>>Scheduling information	
CHOICE mode	
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

ACTIVATE PDP CONTEXT ACCEPT to the UE

Information Element	Value/remark
Protocol discriminator	
Transaction identifier	
Activate PDP context accept message identity	
Negotiated LLC SAPI	
Negotiated QoS	
Radio priority	
Spare half octet	
PDP address	
Protocol configuration options	
Packet Flow Identifier	

7.4.2 Generic session set up procedure for mobile originating packet switched sessions

7.4.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

Mobile Station:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.4.2.2 Definition of system information messages

[Editor's Note: If this subsection's contents are written in 5.2 Default parameters, this subsection will be deleted.]

7.4.2.3 Procedure

Setup shall be done under ideal radio conditions.

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		UE CAPABILITY INFORMATION (DCCH)	RRC
5	<--		UE CAPABILITY INFORMATION CONFIRM (DCCH)	RRC
6	-->		SERVICE REQUEST	GMM
7	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
8	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	-->		ACTIVATE PDP CONTEXT REQUEST	SM
12	<--		RADIO BEARER SETUP	RRC RAB SETUP
13	-->		RADIO BEARER SETUP COMPLETE	RRC
14	<--		ACTIVATE PDP CONTEXT ACCEPT	SM

7.4.2.4 Specific message contents

SYSTEM INFORMATION (BCCH) to the UE

Information Element	Value/remark

RRC CONNECTION SETUP (CCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Initial UE identity	
U-RNTI	
C-RNTI	
Activation time	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Capability update requirement	
RB information elements	
Signalling radio bearers	
> CHOICE RLC info type	
>> RLC info	
> RB mapping info	
TrCH information elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>>TFCS Identity	
TFC subset	
CPCH set ID	
Uplink transport channels	
Uplink transport channel information	
>Transport channel identity	
>TFS	
Downlink transport channels	
Downlink transport channel information	
>Transport channel identity	
>TFS	
>Transparent mode signalling info	
PhyCH information elements	
Frequency info	
Uplink radio resources	
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH info (for RACH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
CHOICE mode	
>FDD	
>>SSDT indicator	

Information Element	Value/remark
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

UE CAPABILITY INFORMATION CONFIRM (DCCH) to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	

AUTHENTICATION AND CIPHERING REQUEST to the UE

Information Element	Value/remark
Protocol discriminator	
Skip indicator	
Authentication and ciphering request message identity	
Ciphering algorithm	
IMEISV request	
Force to standby	
A&C reference number	
Authentication parameter RAND	
GPRS ciphering key sequence number	
Authentication parameter AUTN	

SECURITY MODE COMMAND to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN Information elements	
CN domain identity	
UE information elements	
Ciphering capability	
Ciphering mode info	

RADIO BEARER SETUP to the UE

Information Element	Value/remark
Message Type	
UE information elements	
Integrity check info	
CN information elements	
NAS binding info	
CN domain identity	
UE Information elements	
Activation time	
New C-RNTI	
New U-RNTI	
UTRAN DRX cycle length coefficient	
DRX Indicator	
Ciphering mode info	
CN information elements	
PLMN identity	
CN common GSM-MAP NAS system information	
CN domain related information	
CN domain identity	
CN domain specific GSM-MAP NAS system info	
RB information elements	
RB information to setup	
>RB identity	
>PDCP info	
>CHOICE RLC info type	
>>RLC info	
>RB mapping info	
RB information to be affected	
>RB identity	
>RB mapping info	
TrCH Information Elements	
TFCS	
TFCS	
TFCS	
CHOICE mode	
>TDD	
>>TFCS Identity	
>>TFCS Identity	
TFC subset	
Uplink transport channels	
Deleted TrCH information	
>Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
CHOICE mode	
>FDD	
>>CPCH set ID	
>>DRAC information	
>>>Dynamic Control	
>>>Transmission time validity	
>>>Time duration before retry	
>>>Silent period duration before release	
Downlink transport channels	
Deleted TrCH information	
Transport channel identity	
Added or Reconfigured TrCH information	
>Transport channel identity	
>TFS	
PhyCH information elements	
Frequency info	
Uplink radio resources	

Information Element	Value/remark
Maximum allowed UL TX power	
Uplink DPCH power control info	
PUSCH power control info	
CHOICE channel requirement	
>Uplink DPCH info	
>PRACH Info (for RACH)	
>CHOICE mode	
>>FDD	
>>>PRACH info (for FAUSCH)	
Downlink radio resources	
Downlink DPCH power control info	
Downlink information per radio link	
>CHOICE mode	
>>FDD	
>>>TPC combination index	
>>>Primary CPICH info	
>>TDD	
>>>Primary CCPCH info	
>Downlink DPCH info	
>Secondary CCPCH info	
>References to system information blocks	
>>Scheduling information	
CHOICE mode	
>FDD	
>>SSDT indicator	
>>CPCH SET Info	
>>Gated Transmission Control info	
>>Default DPCH Offset Value	
>>Downlink DPCH compressed mode info	
>TDD	
>>Uplink Timing Advance	

ACTIVATE PDP CONTEXT ACCEPT to the UE

Information Element	Value/remark
Protocol discriminator	
Transaction identifier	
Activate PDP context accept message identity	
Negotiated LLC SAPI	
Negotiated QoS	
Radio priority	
Spare half octet	
PDP address	
Protocol configuration options	
Packet Flow Identifier	

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Editor for TS 34.108 is:
Nouhman Chalabi
Anite Telecoms
Tel: +44 1252 775200
Fax: +44 1252 775299
Email: nouhman.chalabi@anitetelecoms.com
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