Source: **T1**

Title: **TS 34.108 "**Common Test Environment for User Equipment (UE) Conformance Testing**" v2.0.0**

Agenda item: **6.1**

Document for: **Approval**

Presentation of Specification to TSG or WG

Presentation to: **TSG T Meeting #8**

Document for presentation: **TS 34.108, Version 2.0.0**

Presented for: **Approval**

Abstract of document:

This specification 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.

It provides a set of defaults for use in test cases in TS 34.121, 34.122, 34.123-1 and 34.124. This document is provided to save duplication of information common to many tests, and to provide a single reference point for general information about the environment in which tests operate.

Changes since last presentation to TSG WG Meeting #:

Added 6.10 (ref Radio Acess Bearers) from 3G formatted Document (NTT DoCoMo T1s000044 from Yokohama)

Moved sub-clause 6.11 (Test USIM parameters) to clause 8.

Replaced clause 8 with latest NTT DoCoMo update

Added clause 8.1.2 (testing authentication algorithm) latest version from Ericsson

Removed AICH from power levels (not needed in RF testing), also added table for TDD test frequencies and added editor's note to support frequency range in other regions (discussion with T1/RF group 6/6/2000)

Test frequencies: leave an offset 2.6 MHz to avoid interference with adjacent bands (disscussion after discussion with T1/RF group 6/6/2000)

Added clause 9 from latest MCI's contribution ' Default Message content'.

Contents of sub-clauses 6.3, 6.4 and 6.5 were <FFS> but it seems their content can be derived from the default message content sub-clause. Hence replaced <FFS> by a explanatory sentence.

Replaced all occurences of 'Clause', 'Sub-clause' by 'Clause' and 'Sub-clause' respectively

Removed automatic numbering of clauses and use manual numbering

Outstanding Issues:

Some information, such as certain RF parameters and contents of System Information Blocks, are not yet available from source documents or specifications. These are marked FFS in the document.

Contentious Issues:

None.

This table summarises the status of the test cases and other sections in TS 34.123-1 prior to submission to TSG-T1 for version 1.0.0 approval.

Key to table: E = Editorial changes. C = Content required. D = Decision required.

Clause # TS 34.123-1 V0.0.5	Title	Open issue	Type of Change	Completed parts: TS 34.108 (v2.0.0)	Com-plete by
0	Introduction	Statement on precedence of test case values	E		r103
		FDD/TDD coverage	E		
5					
5.2	Radio Conditions	Change ideal to normal	E	All sections	r103
		Change editor's note (blue) to NB:	E		r103
5.3	Standard Test Siganls	Place references in for TS 25.101 and 25.102	E	Empty	r103
5.4	Signal Levels	Delete AICH from table	E	All other channels	r103
		SCCPCH is still FFS	C		Sept
		Other FFS values require RAN4 assisstance	C		Sept
		Change Ideal to normal	E		r103
		Remove editors notes	E		r103
		Uplink signal levels (RAN4)	C		Nov
5.5	Timer Tolerances	None		Completed	
6 (6.1 thru 6.5)	Reference system configurations	This section will be replace by the MCI system information and cell definition tables	E		r103
6.6	Power control	Move editors notes	E	Completed	r103
		Refer 6.6.2 to default messages	E		r103
6.7	Tx Diversity modes	Refer to default messages	E		r103
6.8	Compressed mode parameters	Refer to default messages	E		r103
6.9	BCCH Parameters	Refer to default messages	E		r103
6.10	Reference Radio Bearer Configurations	Remove notes	E		r103
				Update with revised ISG document	Sept
7	Generic Setup Procedures	Update from T1S-000106	E	Completed	r103
		Update from T1S-000095	E		r103

Clause # TS 34.123-1 V0.0.5	Title	Open issue	Type of Change	Completed parts: TS 34.108 (v2.0.0)	Com-plete by
		Update from T1R-000191	E		r103
		Make state names consistent	E		r103
		Remove subheadings from 7.3.3 and 7.3.4 and replace with FFS	E		r103
8	Default test USIM parameters	Update from T1S-000097	E		r103
		Update from T1S-000110	E		r103
9	Default message contents for L3	Change title to Default message contents	E		r103
		Remove subsections	E		r103
		Update from T1S-000082	E		r103
				Review the use of Ciphering in all test cases	r103

3G TS 34.108 V2.0.0 (2000-06)

Technical Specification

3rd Generation Partnership Project; Technical Specification Group Terminals; Common Test Environments for User Equipment (UE) Conformance Testing (Release 1999)

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Contents

Foreword

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

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

Version x.y.z

where:

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

Introduction

The 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 requires 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. Hence this documents defines testing conditions that are common to several tests avoiding the need to duplicate the same information for every single test.

This document defines default values for a variety of common areas. Where values are not specified in test cases, the defaults in this document will apply. If specified, the test case values will take precedence.

This document also addresses the FDD mode as well as the TDD mode. Due to the fact that TDD is not a requirement for release 99, much emphasis has gone in defining the FDD environments. Some TDD definitions have been also included where possible. The TDD mode, however, needs some further studies and refinement in the future.

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.

[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)".

[7] 3G TS 25.301 Services Provided by the physical layer

[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)".

[13] 3G TS 25.211 Physical Channels and mapping of Transport Channels onto Physical channels (FDD)

[14] 3G TS 25.212 Multiplexing and Channel Coding (FDD)

[15] 3G TS 23.107 QoS concept and Architecture

[16] 3G TS 26.110 Codec for Circuit Switched Multimedia Telephony Service; General Description

[17] 3G TS 29.007 General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)

[18] 3G TR 23.910 Circuit Switched Data Bearer Service

[19] GSMA-ISG: Typical Radio Parameter Sets, version 1.1, IS Doc 049/00, 20 March 2000

[20] 3G TS 25.104 UTRA (BS)-FDD Radio Transmission and Reception

[21] 3G TS 25.105 UTRA (BS)-TDD Radio Transmission and Reception

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:

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.

RRC Radio Resource Control (for sub-Layer of layer 3) but also Root-Raised Cosine (for Filter shape)

AM Acknowledgement mode

BCCH Broadcast Control Channel

CBS Cell Broadcast Service

CC Convolutional coding

CCCH Common Control Channel

CCTrCH Coded Composite Transport Channel

CS Circuit switching

DCCH Dedicated Control Channel

DL Downlink

DPCH Dedicated Physical Channel

DT Direct transfer

DTCH Dedicated Traffic Channel

FTM	File tunnelling mode
NAS	Non-access stratum
PRACH	Physical Randome Access Channel
PS	Packet switching
RAB	Radio Access Bearer
RB	Radio Bearer
SCCPCH	Secondary Common Control Physical Channel
SMS	Short Message Service
SRB	Signalling RB
SSD	Source statistics descriptor
TC	Turbo coding
TM	Transparent mode
UL	Uplink
UM	Unacknowledgement mode

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-clause.

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

Note: This clause 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

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

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 the level of accuracy set by the core specications [20] for FDD and [21] for TDD.

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 test frequencies are based the UMTS frequency bands defined in the core specifications.

To avoid interference with adjacent frequency bands the lowest test frequency (downlink and uplink) needs to be offset upwardly by at least 2.6 MHz since the channel's width is 5 MHz and the raster spacing is 200KHz. Similarly the highest test frequency (downlink and uplink) needs to be offset downwardly by at least 2.6 MHz.

NB: Additional regulations concerning interferences to frequency bands used by different systems may also exist. Those regulations are specific to the country where the test equipment is used and need to be taken into account if they require a higher offset than 2.6 MHz from the edge frequencies.

5.1.1 FDD Mode Test frequencies

UTRA/FDD is designed to operate in either of two paired bands [11]. The second band is used in ITU Region 2. The reference test frequencies for the common test environment for each of the 2 regions are defined in the following tables:

5.1.1.1 Standard FDD reference test frequencies

Test Frequency ID	UARFCN	Frequency of Uplink	Frequency of Downlink
Low Range	9613	1922.6 MHz	2112.6 MHz
Mid Range	9750	1950.0 MHz	2140.0 MHz
High Range	9887	1977.4 MHz	2167.4 MHz

5.1.1.2 FDD reference test frequencies for ITU region 2

Test Frequency ID	UARFCN	Frequency of Uplink	Frequency of Downlink
Low Range	9263	1852.6 MHz	1932.6 MHz
Mid Range	9400	1880 MHz	1960 MHz
High Range	9537	1907.4 MHz	1987.4 MHz

5.1.2 TDD Mode Test frequencies

The reference test frequencies for the common test environment in the TDD [12] Bands are defined in the following tables:

Editor's note: the offset from the edge frequencies have not been defined yet. So the values given are the frequencies at the ends of the spectrum bands.

5.1.2.1 Standard TDD reference test frequencies

	Band 1		Band 2	
Test Frequency ID	UARFCN	Frequency (UL and DL)	UARFCN	Frequency (UL and DL)
Low Range		1900 MHz		2010 MHz
Mid Range		1910 MHz		2017.4 MHz
High Range		1920 MHz		2025 MHz

5.1.2.2 TDD reference test frequencies for ITU Region 2

a)

	Band 1		Band 2	
Test Frequency ID	**UARFCN**	**Frequency (UL and DL)**	**UARFCN**	**Frequency (UL and DL)**
Low Range		1850 MHz		1930 MHz
Mid Range		1880 MHz		1960 MHz
High Range		1910 MHz		1990 MHz

b)

Test Frequency ID	UARFCN	Frequency (UL and DL)
Low Range		1910 MHz
Mid Range		1920 MHz
High Range		1930 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.

NB: The System Simulator is required to support at least the normal Propagation Condition; support of the other propagation conditions is optional, depending on the specific test supported by the simulator

5.2.1 Normal 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.

Note: It is assumed that the AWGN condition will be simulated by $\boldsymbol{I_{oc}}$.

5.2.3 Multi-Path Fading Propagation Conditions

Table 1 shows propagation conditions that are used for simulating operation in multi-path fading environments. All taps have classical Doppler spectrum.

Table 1: 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 (1).

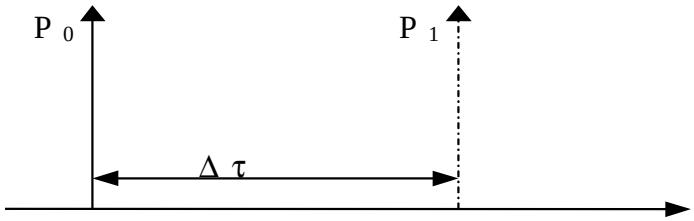

Figure 1: The moving propagation conditions

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

The parameters in the equation are shown in.

A	5 μs
Δω	$40*10^{-3}$ 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 1.

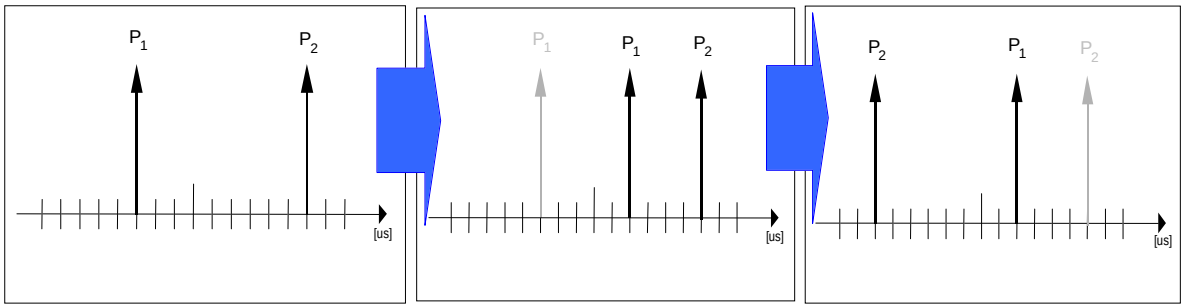

Figure 2: Birth death propagation sequence

Note:

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

The sequence in 2) and 3) is repeated.

5.3 Standard test signals

Reference [11] and [12] for definitions of standard test signals.

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.

Maximum Input Level: DPCH_E_c/I_{or} = -19 dB

I_{or} = -25 dBm/3.84 MHz

	Power Level at UE Antenna Connector		
Physical Channel	**Normal Radio Conditions**	**Sensitivity Conditions**	**Maximum Signal Conditions**
P-CCPCH	FFS	-112 dBm ± 1dB	-37 dBm ± 1dB
S-CCPCH (FACH)	FFS	FFS	FFS
S-CCPCH (PCH)	FFS	FFS	FFS
Primary CPICH	FFS	-110 dBm ± 1dB	-35 dBm ± 1dB
Secondary CPICH	N/A	N/A	N/A
SCH	FFS	-112 dBm ± 1 dB	-37 dBm ± 1dB
PICH	FFS	-115 dBm ± 1dB	-40 dBm ± 1dB
DPCH	FFS	-117 dBm ± 1dB	-44 dBm ± 1dB
n*DPCH	FFS	FFS	FFS
OCNS	N/A	Necessary power so that total transmit power (Ior) adds to one, assuming that P-CCPCH_Ec/Ior = -12(TBC) dB	

Remark: The Secondary CPICH and AICH channels are not needed for RF testing hence power values are not needed.

5.4.2 Uplink Signal Levels

	Power Leve at UE Tx Antenna Connector	
Physical Channel	**Ideal Radio Conditions**	**Maximum Signal Conditions**
PCPCH	FFS	FFS
PRACH	FFS	FFS
DPCCH + n DPDCH	FFS	FFS

5.5 Timers Tolerances

All the timers used during testing are within a tolerance margin of **±10%**. If for a specific test a different tolerance value is required then this should be specified in the relevant test document (document where test is described).

6 Reference System Configurations

This clause 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).

The following tables list the default parameters for 1 to 8 cell environments for testing.

Contents of Master Information Block PLMN type is the case of GSM-MAP

- MIB value tag	1 (1 to 8)
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity(GSM-MAP)	
- MCC digit	Mobile Country Code(3 digit) According to the contents of USIM.
- MNC digit	Mobile Network Code(2-3 digit) According to the contents of USIM.
- ANSI-41 Core Network information	Not Present
- P_REV(Protocol revision level)	
- MIN_P_REV(Minimum protocol revision level)	
- SID(System identification)	
- NID(Network identification)	
- References to other system information blocks	
- Scheduling information	
- SIB type	Type2
- PLMN Value tag	1(1 to 256)
- Cell Value tag	Not Present
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type3
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type4
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type5
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type6
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type7
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type8
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type9
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	

- SIB_POS		
- SIB_OFF		
- SIB type	Type10	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type11	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type12	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type13	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type13.1	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type13.2	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type13.3	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type13.4	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type14	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		
- SIB_POS		
- SIB_OFF		
- SIB type	Type15	
- PLMN Value tag	Not Present	
- Cell Value tag	1 (1 to 4)	
- SEG_COUNT		
- SIB_REP		

- SIB_POS - SIB_OFF - SIB type - PLMN Value tag - Cell Value tag - SEG_COUNT - SIB_REP - SIB_POS - SIB_OFF	 Type16 Not Present 1 (1 to 4)

Contents of System Information Block type1 PLMN type is the case of GSM-MAP

- CN common GSM-MAP NAS system information	
- GSM-MAP NAS system information	Use Location Area Information IE for GSM
- MCC digit	Mobile Country Code(3 digit) According to the contents of USIM.
- MNC digit	Mobile Network Code(2-3 digit) According to the contents of USIM.
- Location area code	0001H
- CN domain system information	
- CN domain identity	PS
- GSM-MAP NAS system information	T.B.D
- Location area code	
- CN domain system information	
- CN domain identity	CS
- GSM-MAP NAS system information	T.B.D
- CN domain specific DRX cycle length coefficient	
-DRX cycle length coefficient	5
- UE Timers and constants in idle mode	
-T300	5
-N300	3
-T312	10
- N312	200

Contents of System Information Block type2

- URA identity	0000 0000 0000 0001B
- UE Timers and constants in connected mode	
- T301	5 (1 to 8 seconds: waiting for RRC CONNECTION RE-ESTABLISHMENT message)
- T302	5 (1 to 8 seconds: waiting for CELL UPDATE CONFIRM message)
- N302	3 (1 to 8: the re-transmission number of CELL UPDATE message)
- T303	5 (1 to 8 seconds: waiting for URA UPDATE CONFIRM message)
- N303	3 (1 to 8: the re-transmission number of URA UPDATE message)
- T304	1000 (100, 200, 400, 1000, 2000 millisecond: waiting for UE CAPABILITY INFORMATION CONFIRM message)
- N304	3 (1 to 8: the re-transmission number of UE CAPABILITY INFORMATION message)
- T305	60 (infinity,5,10,30,60,120,360,720minutes: waiting for cell update in CELL_PCH or CELL_FACH)
- T306	120 (infinity,5,10,30,60,120,360,720minutes waiting for cell update in URA_PCH)
- T307	50 (5, 10, 15, 20, 30, 40, 50 seconds: waiting for entering to idle state if the UE is out of service area)
- T308	320(40, 80, 160, 320 milliseconds: waiting for re-transmission of RRC CONNECTION RELEASE COMPLETE message)
- T309	8 (1 to 8 seconds: waiting for inter-system cell re-selection)
- T310	320 (40 to 320 milliseconds by step of 40)
- N310	5 (1 to 8)
- T311	320 (250 to 2000 milliseconds by step 250)
- T312	5 (0 to 15 seconds: waiting for the detection of physical channel failure)
- N312	200 (1, 50, 100, 200, 400, 600, 800, 1000)
- T313	10 (0 to 15 seconds: waiting for the detection of radio link failure)
- N313	400 (1, 50, 100, 200, 400, 600, 800, 1000)
- T314	20(0, 2,4,6,8,12,16,20 seconds)
- T315	30(0, 10, 30, 60, 180, 600, 1200, 1800 seconds)
- N315	200 (1, 50, 100, 200, 400, 600, 800, 1000)

Contents of System Information Block type3

- References to other system information blocks	Not Present
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	
- RAT	UTRA FDD
- Mapping Function Parameter List	Not Present
- Function type	
- Map_parameter_1	
- Map_parameter_2	
- Upper_limit	
- Cell selection_and_reselection_quality_measure	CPICH Ec/N0
- $S_{intrasearch}$	16[dB] (-32 to 20 by step of 2 TS25.304)
- $S_{intersearch}$	16[dB] (-32 to 20 by step of 2 TS25.304)
- $S_{searchHCS}$	10[dB] (-32 to 20 by step of 2 TS25.304)
- RAT List	Not Present
- RAT identifier	
- $S_{search,RAT}$	
- $S_{HCS,RAT}$	
- Q_{hyst_S}	0[dB] (0 to 40 by step of 2)
- $T_{reselection_S}$	T.B.D ([s] 0 to 31)
- HCS Serving cell information	
- HCS_PRIO	0 (0 to 7)
- Q_{HCS}	0 (0 to 99)
- TCR_{MAX}	Not used (not used, 30, 60, 120, 180, 240)
- NCR	Not Present
- $TCMAXH_{yst}$	Not Present
- Maximum allowed UL TX power	33dBm
- Qmin	T.B.D
- Cell Access Restriction	
- Cell barred	Not barred
- Cell Reserved for operator use	Not reserved
- Cell Reserved for SoLSA exclusive use	Not reserved
- Access Class Barred0	Not barred
- Access Class Barred1	Not barred
- Access Class Barred2	Not barred
- Access Class Barred3	Not barred
- Access Class Barred4	Not barred
- Access Class Barred5	Not barred
- Access Class Barred6	Not barred
- Access Class Barred7	Not barred
- Access Class Barred8	Not barred
- Access Class Barred9	Not barred
- Access Class Barred10	Not barred
- Access Class Barred11	Not barred
- Access Class Barred12	Not barred
- Access Class Barred13	Not barred
- Access Class Barred14	Not barred
- Access Class Barred15	Not barred

Contents of System Information Block type4 In connected mode (similar to SIB type3)

- References to other system information blocks	Not Present
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- RAT	UTRA FDD
- Mapping Function Parameter List	Not Present
- Function type	
- Map_parameter_1	
- Map_parameter_2	
- Upper_limit	
- Cell_selection_and_reselection_quality_measure	CPICH Ec/N0
- $S_{intrasearch}$	16[dB] (-32 to 20 by step of 2 TS25.304)
- $S_{intersearch}$	16[dB] (-32 to 20 by step of 2 TS25.304)
- $S_{searchHCS}$	10[dB] (-32 to 20 by step of 2 TS25.304)
- RAT List	
- RAT identifier	Not Present
- $S_{search,RAT}$	
- $S_{HCS,RAT}$	
- Q_{hyst_S}	T.B.D ([dB] 0 to 40 by step of 2)
- $T_{reselection_S}$	T.B.D ([s] 0 to 31)
- HCS Serving cell information	
- HCS_PRIO	0 (0 to 7)
- Q_{HCS}	0 (0 to 99)
- TCR_{MAX}	Not used (not used, 30, 60, 120, 180, 240)
- NCR	Not Present
- $TCMAXH_{yst}$	Not Present
- Maximum allowed UL TX power	33dBm
- Qmin	T.B.D
- Cell Access Restriction	
- Cell barred	Not barred(not barred, barred)
- Access Class Barred	Not barred(not barred, barred)
- Cell Reserved for operator use	Not reserved(reserved, not reserved)
- Cell Reserved for SoLSA exclusive use	Not reserved(reserved, not reserved)
- Access Class Barred0	Not barred
- Access Class Barred1	Not barred
- Access Class Barred2	Not barred
- Access Class Barred3	Not barred
- Access Class Barred4	Not barred
- Access Class Barred5	Not barred
- Access Class Barred6	Not barred
- Access Class Barred7	Not barred
- Access Class Barred8	Not barred
- Access Class Barred9	Not barred
- Access Class Barred10	Not barred
- Access Class Barred11	Not barred
- Access Class Barred12	Not barred
- Access Class Barred13	Not barred
- Access Class Barred14	Not barred
- Access Class Barred15	Not barred

Contents of System Information Block type5

- References to other system information blocks	Not Present
- Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
- Maximum allowed UL TX power	33dBm
- Primary CCPCH info	
- TX Diversity indicator	FALSE
- PRACH system information	
- PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
- RACH TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- RACH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
- PRACH partitioning	
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Available sub-channel Start Index	0 (ASC#0)
- Available sub-channel End Index	11 (ASC#0)
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
- Available sub-channel Start Index	0 (ASC#1)
- Available sub-channel End Index	10 (ASC#1)

- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Available sub-channel Start Index	0 (ASC#2)
- Available sub-channel End Index	9 (ASC#2)
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Available sub-channel Start Index	0 (ASC#3)
- Available sub-channel End Index	8 (ASC#3)
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Available sub-channel Start Index	0 (ASC#4)
- Available sub-channel End Index	7 (ASC#4)
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Available sub-channel Start Index	0 (ASC#5)
- Available sub-channel End Index	6 (ASC#5)
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Available sub-channel Start Index	0 (ASC#6)
- Available sub-channel End Index	5 (ASC#6)
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Available sub-channel Start Index	0 (ASC#7)
- Available sub-channel End Index	4 (ASC#7)
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- Primary CPICH DL TX power	Reference to clause 6.10 Parameter Set
- Constant value	Reference to clause 6.10 Parameter Set
- PRACH power offset	
- Power offset P0	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Secondary scrambling code	1 (1 to 15)
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system info	
- Secondary CCPCH info	
- Selection indicator	On
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Channelisation code	
- STTD indicator	
- Secondary scrambling code	1
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible position	Flexible
- Timing offset	0

- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- CTCH indicator	FALSE
- PICH info	
- Secondary scrambling code	2
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- Number of PI per frame	18
- STTD indicator	FALSE
- CBS DRX Level 1 information	Not Present

Contents of System Information Block type6 In connected mode (similar to SIB type5)

- References to other system information blocks	Not Present
- Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
- Maximum allowed UL TX power	33dBm
- Primary CCPCH info	
- TX Diversity indicator	FALSE
- PICH power offset	0 dB
- AICH power offset	0 dB
- PRACH system information	
- PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
- PRACH TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- PRACH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
- PRACH partitioning	
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Available sub-channel Start Index	0 (ASC#0)
- Available sub-channel End Index	11 (ASC#0)
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)

- Available sub-channel Start Index	0 (ASC#1)
- Available sub-channel End Index	10 (ASC#1)
- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Available sub-channel Start Index	0 (ASC#2)
- Available sub-channel End Index	9 (ASC#2)
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Available sub-channel Start Index	0 (ASC#3)
- Available sub-channel End Index	8 (ASC#3)
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Available sub-channel Start Index	0 (ASC#4)
- Available sub-channel End Index	7 (ASC#4)
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Available sub-channel Start Index	0 (ASC#5)
- Available sub-channel End Index	6 (ASC#5)
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Available sub-channel Start Index	0 (ASC#6)
- Available sub-channel End Index	5 (ASC#6)
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Available sub-channel Start Index	0 (ASC#7)
- Available sub-channel End Index	4 (ASC#7)
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	Not Present
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- Primary CPICH DL TX power	Reference to clause 6.10 Parameter Set
- Constant value	Reference to clause 6.10 Parameter Set
- PRACH power offset	
- Power offset P0	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Secondary scrambling code	1 (1 to 15)
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system info	
- Secondary CCPCH info	
- Selection indicator	On
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Channelisation code	
- STTD indicator	
- Secondary scrambling code	1
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6.10 Parameter Set
- Code number	Reference to clause 6.10 Parameter Set
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible position	Flexible

- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- CTCH indicator	FALSE
- PICH info	
- Secondary scrambling code	2
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- Number of PI per frame	18
- STTD indicator	FALSE
- CBS DRX Level 1 information	Not Present

Contents of System Information Block type7

- UL interference - PRACHs listed in system information block type5 - Dynamic persistence level - PRACHs listed in system information block type6 - Dynamic persistence level	-100dBm(-110 to –70 dBm) 2 (1 to 8) 2 (1 to 8)

Contents of System Information Block type8,9

This information is used for static CPCH in the cell, so this is not present.

Contents of System Information Block type10

This information is used for DRAC, so this is not present.

Contents of System Information Block type11

- References to other system information blocks	Not Present
- FACH measurement occasion info	Not Present
- k_UTRA	
- Other RAT present in intersystem cell info	
- RAT type	
- k_Intrer_Rat	
- Measurement control systmen information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	0
- Intra-frequency cell info list	
- Removed intra-frequency cells	Not Present
- Intra-frequency cell id	
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0dB(-10,-9.5…10 by step of 0.5)
- Reference time difference to cell	Not Present(-153088,152576…153088 by step of 512)
- Primary CPICH info	
- Primary scrambling code	The current value plus 50(When the current cell is cell No.8 then minus 50)
- Primary CPICH TX power	Not Present
- Read SFN indicator	TRUE
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	T.B.D
- Maximum allowed UL TX power	33dBm
- HCS neighbouring cell information	Not Present
- HCS_PRIO	
- Q_{HCS}	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	T.B.D
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	
-SFN-SFN observed time differnce	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	TRUE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for unlisted set cells	Not Present
- SFN-SFN observed time difference	
- Cell identity	
- CPICH Ec/N0	
- CPICH RSCP	
- Pathloss	

- CFN-SFN observed time difference	
- Intra-frequency measurement reporting criteria	
- parameters required for each event	
- intra-frequency event identity	1a
- Triggering condition(mandatory in case of 1a,1b,1e,1f)	monitored set cells
- Reporting Range(optional in case of 1a,1b)	5dB
- cells forbidden to affect reporting range(optional in case of 1a,1b)	Not Present
- Primary CPICH info	
- Primary scrambling code	
- W(optional in case of 1a,1b)	1.0
- Hysteresis (mandatory in case of 1a,1b,1c,1d,1g,1h,1I,1j)	0.0
- Threshold used frequency (in case of 1e,1f,1h,1i,1j)	T.B.D(-125..165)
- Reporting deactivation threshold(mandatory in case of 1a)	1
- Replacement activation threshold(mandatory in case of 1c)	Not Present(not applicable,1,2,3,4,5,6,7)
- Reporting Threshold	T.B.D. (-115 … 125)
- Time to trigger	640(0,10,20,40,60,80,100,120,160,200,240,320,640,1280,2560,5000)
- Amount of reporting	Infinity(1,2,4,816,32,64,Infinity)
- Reporting interval	0(0,250,500,1000,2000,4000,8000,16000 milliseconds)
- Reporting cell status	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-frequency measurement identity number	
- Inter-frequency cell info list	
- Removed inter-frequency cells	
- Inter-frequency cell id	
- New inter-frequency cells	
- Inter-frequency cell id	
- Frequency info	
- UARFCN uplink(Nu)	
- UARFCN downlink(Nd)	
- Cell info	
- Cell individual offset	
- Reference time difference to cell	
- Primary CPICH info	
- Primary scrambling code	
- Primary CPICH TX power	
- Read SFN indicator	
- TX Diversity indicator	
- Cell Selection and Re-selection info	
- Qoffsets,n	
- Maximum allowed UL TX power	
- HCS neighbouring cell information	
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	
- Inter-frequency measurement quantity	
- Intra-frequency reporting criteria	
- Intra-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity	
- Inter-frequency reporting criteria	
- Inter-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity for frequency quality estimate	

- Inter-frequency measurement reporting criteria	
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

Contents of System Information Block type12 in connected mode (similar to SIB type11)

- References to other system information blocks	Not Present
- FACH measurement occasion info	Not Present
- k_UTRA	
- Other RAT present in intersystem cell info	
- RAT type	
- k_Intrer_Rat	
- Measurement control systmen information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	0
- Intra-frequency cell info list	
- Removed intra-frequency cells	Not Present
- Intra-frequency cell id	
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0dB(-10,-9.5…10 by step of 0.5)
- Reference time difference to cell	Not Present(-153088,152576…153088 by step of 512)
- Primary CPICH info	
- Primary scrambling code	The current value plus 50(When the current cell is cell No.8 then minus 50)
- Primary CPICH TX power	Not Present
- Read SFN indicator	TRUE
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	T.B.D
- Maximum allowed UL TX power	33dBm
- HCS neighbouring cell information	Not Present
- HCS_PRIO	
- Q_{HCS}	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	T.B.D
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	
-SFN-SFN observed time differnce	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	TRUE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for unlisted set cells	Not Present
- SFN-SFN observed time difference	
- Cell identity	
- CPICH Ec/N0	
- CPICH RSCP	
- Pathloss	

- CFN-SFN observed time difference	
- Intra-frequency measurement reporting criteria	
- parameters required for each event	
- intra-frequency event identity	1a
- Triggering condition(mandatory in case of 1a,1b,1e,1f)	monitored set cells
- Reporting Range(optional in case of 1a,1b)	5dB
- cells forbidden to affect reporting range(optional in case of 1a,1b)	Not Present
- Primary CPICH info	
- Primary scrambling code	
- W(optional in case of 1a,1b)	1.0
- Hysteresis (mandatory in case of 1a,1b,1c,1d,1g,1h,1I,1j)	0.0
- Threshold used frequency (in case of 1e,1f,1h,1i,1j)	T.B.D(-125..165)
- Reporting deactivation threshold(mandatory in case of 1a)	1
- Replacement activation threshold(mandatory in case of 1c)	Not Present(not applicable,1,2,3,4,5,6,7)
- Reporting Threshold	T.B.D(-115..125)
- Time to trigger	0(0,10,20,40,60,80,100,120,160,200,240,320,640,1280,2560,5000)
- Amount of reporting	Infinity(1,2,4,816,32,64,Infinity)
- Reporting interval	0 (0,250,500,1000,2000,4000,8000,16000 milliseconds)
- Reporting cell status	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-frequency measurement identity number	
- Inter-frequency cell info list	
- Removed inter-frequency cells	
- Inter-frequency cell id	
- New inter-frequency cells	
- Inter-frequency cell id	
- Frequency info	
- UARFCN uplink(Nu)	
- UARFCN downlink(Nd)	
- Cell info	
- Cell individual offset	
- Reference time difference to cell	
- Primary CPICH info	
- Primary scrambling code	
- Primary CPICH TX power	
- Read SFN indicator	
- TX Diversity indicator	
- Cell Selection and Re-selection info	
- Qoffsets,n	
- Maximum allowed UL TX power	
- HCS neighbouring cell information	
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	
- Inter-frequency measurement quantity	
- Intra-frequency reporting criteria	
- Intra-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity	
- Inter-frequency reporting criteria	
- Inter-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity for frequency quality estimate	

- Inter-frequency measurement reporting criteria	
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

Default settings for cell No.1:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	100

Cell No.2

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.2 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0010B
URA identity	0000 0000 0000 0001B

Default settings for cell No.2:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	150

Cell No.3

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.3 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0011B
URA identity	0000 0000 0000 0010B

Default settings for cell No.3:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	200

Cell No.4

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.4 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0100B
URA identity	0000 0000 0000 0010B

Default settings for cell No.4:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	250

Cell No.5

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.5 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0101B
URA identity	0000 0000 0000 0011B

Default settings for cell No.5:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	300

Cell No.6

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.6 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0110B
URA identity	0000 0000 0000 0011B

Default settings for cell No.6:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	350

Cell No.7

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.7 are identical to those of cell No.1 with the following exceptions:

Cell identity URA identity	0000 0000 0000 0000 0000 0000 0111B 0000 0000 0000 0100B

Default settings for cell No.7:

Downlink input level Uplink output power PCCPCH/PCPICH carrier number Cell Channel Description - Primary CPICH info - Primary scrambling code	Reference to clause 6.10 Parameter Set Minimum supported by the UE's power class. Reference to clause 6.10 Parameter Set 400

Cell No.8

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.8 are identical to those of cell No.1 with the following exceptions:

Cell identity URA identity	0000 0000 0000 0000 0000 0000 1000B 0000 0000 0000 0100B

Default settings for cell No.8:

Downlink input level Uplink output power PCCPCH/PCPICH carrier number Cell Channel Description - Primary CPICH info - Primary scrambling code	Reference to clause 6.10 Parameter Set Minimum supported by the UE's power class. Reference to clause 6.10 Parameter Set 450

Default Radio Conditions for Multi-Cell Environment

In the event that a multi-cell environment is applied by the System Simulator, the following transmission parameters shall be used unless otherwise stated in the description of individual test case.

Parameter	**Unit**	**Cell 1**	**Cell 2**	**Cell 3**	**Cell 4**	**Cell 5**	**Cell 6**	**Cell 7**	**Cell 8**
UTRA RF Channel Number								Switched Off	Switched Off
CPICH_Ec/No	dB	-5	-15	-20	-24	-18	-10	-	-
CPICH RSCP	dBm	-60	-70	-75	-95	-73	-65	-	-
UTRA RSSI	dBm	-55	-55	-55	-55	-55	-55	-	-
Propagation Profile		Static							
Qrxlevmin *Qrxqualmin*	dBm dB	-90dBm -20dB	-90dBm -20dB	-90dBm -20dB	-90dBm -20dB	-90dBm -20dB	-70dBm -5dB		
UE_TXPWR_MAX_RACH	DBm	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE		
MNC		001D	001D	001D	001D	001D	001D		
MCC		01D	01D	01D	01D	02D	01D		
Cell barred		No	No	No	No	No	No	No	No

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. See clause 6.1 for cell configurations.

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

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

See clause 6.1.

6.4 Routing/location area

See clause 6.1.

6.5 Network options settings

See clause 6.1.

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.

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.

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	–
DPCH	–	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

6.9 BCCH parameters

See clause 6.1.

~~Agenda Item:~~

~~Source:~~ **~~NTT DoCoMo~~**

~~Title:~~ **~~Proposal for TS34.108 : Reference Radio Bearer configurations~~**

~~Document for:~~ **~~Proposal~~**

~~Introduction~~

~~This document proposes the contents for section 6.10 Reference Radio Bearer configurations of TS 34.108 V1.0.1 (2000-3)[1].~~

~~GSMA ISG has produced a "Typical Radio Parameter sets" document, which describes the parameters preferred by operators to ensure interoperability.~~

~~It is strongly recommended that the 3GPP testing specifications will be produced based on the assumption that the operators will use mainly the parameters specified in the document.~~

~~The "Typical Radio Parameter sets" document have been noted in the last TSG plenary meeting in Madrid[2][3]. Typical Radio Parameter sets v1.1 has already been approved by ISG on the 7th March and was distributed to relevant 3GPP WGs, including T1 and T1/SIG from ISG.~~

~~Proposal~~

~~When UE is tested, appropriate parameters shall be chosen. T1 has the responsibility to decide the test parameters.~~

~~This "Typical Radio Parameter sets" document describes the typical parameter sets for layer 1 and 2 configurations preferred by operators to ensure interoperability. These parameters are chosen within the range specified in 3GPP specifications and will not give any impact on the 3GPP core specifications~~

~~Reference Radio Access Bearers are defined in TR25.926[4]. TR25.926 is going to be revised based on ISG document v1.1.~~

~~T1/SIG should incorporate two Radio Bearers that derive from TR25.926 and the ISG document into TS34.108. Then T1-SIG should select appropriate RABs and RBs for conformance test specifications TS34.123-1[5].~~

~~Section numbers in the following text proposal are aligned with 3G TS 34.108 V1.0.1 (2000-3).~~

~~Reference~~

~~[1] 3G TS 34.108 V1.0.1 (2000-3) ; Common Test Environments for User Equipment (UE) Conformance Testing (Release 1999)~~

~~[1] TP-000048; GSMA ISG activity on Typical Radio Parameter sets~~

~~[1] TP-000049; Typical Radio Parameter Sets Document submission~~

~~[1] 3G TR 25.926 V3.0.0 (2000-3) ; UE Radio Access Capability (Release 1999)~~

~~[1] 3G TS 34.123-1 V1.0.1 (2000-3) ; User Equipment (UE) conformance specification; Part 1: Protocol conformance specification (Release 1999)~~

6.10 Reference Radio Bearer configurations

6.10.1 QoS Architecture and RAB attributes

From a user point-of-view services are considered end-to-end, this means from a Terminal Equipment (TE) to another TE. An End-to-End Service may have a certain Quality of Service (QoS) which is provided for the user through the different networks. In UMTS, it is the UMTS Bearer Service that provides the requested QoS through the use of different QoS classes as defined in TS 23.107.

The UMTS Bearer Service consists of two parts, the Radio Access Bearer Service, RAB, and the Core Network Bearer Service. The Radio Access Bearer Service is realised by a Radio Bearer Service and an Iu-Bearer Service. The relationship between the services is illustrated in figure 6.10.1.1.

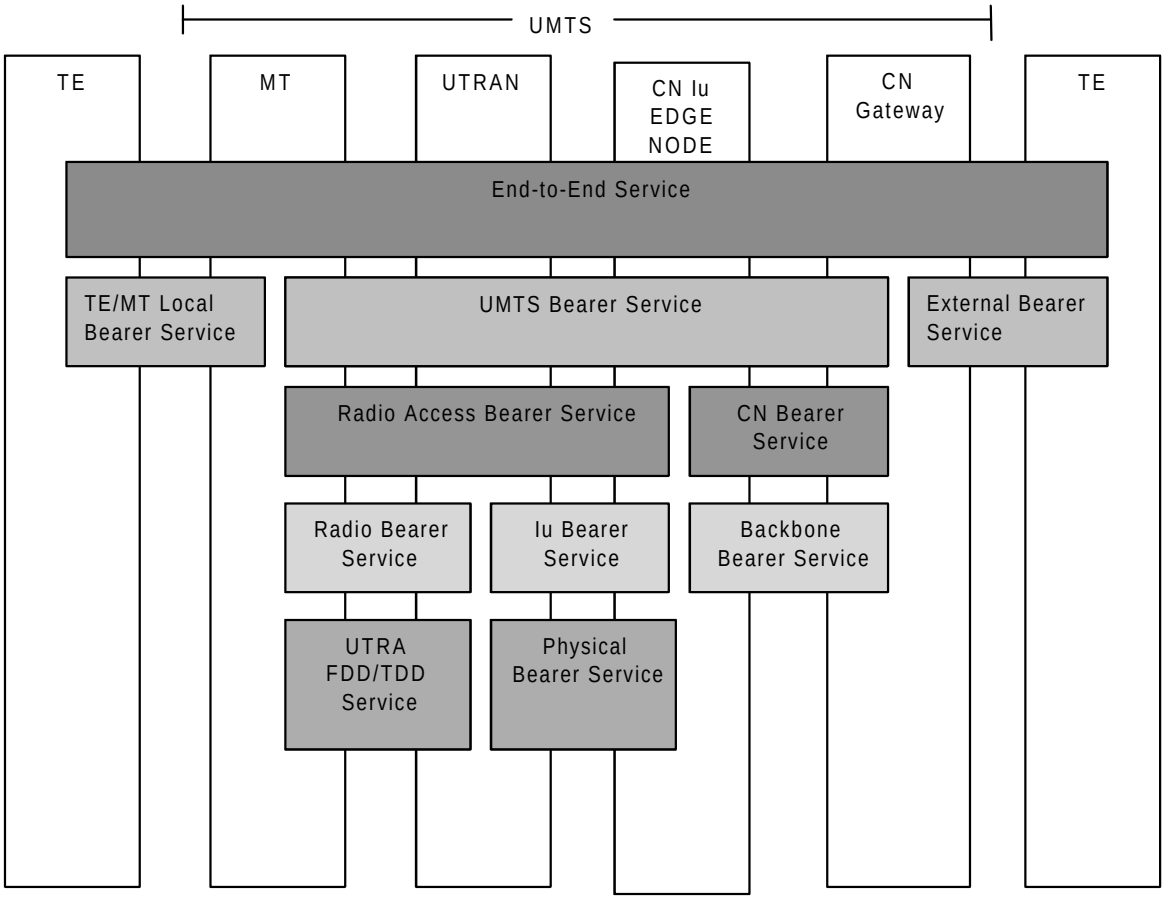

Figure 6.10.1.1: UMTS QoS Architecture

The Radio Access Bearer Service is characterised by a number of attributes such as Traffic class, Maximum bit rate, Guaranteed bit rate, SDU error ratio, Residual BER, Transfer Delay etc. As a first approach the four following attributes have been considered to come up with the parameter settings in clause 6.10.2.4:

- Traffic class
- SSD
- Maximum bit rate
- Residual BER

The Traffic classes are explained in table 6.10.1.1. The Maximum bit rate has been considered at RLC layer and Physical Layer for the acknowledged and unacknowledged modes respectively. The Residual BER is understood as BER at RLC layer and Transport BLER for the acknowledged and unacknowledged modes respectively.

Table 6.10.1.1: Traffic classes

Traffic class	**Conversational class** conversational RT	**Streaming class** streaming RT	**Interactive class** Interactive best effort	**Background** Background best effort
Fundamental characteristics	- Preserve time relation (variation) between information entities of the stream Conversational pattern (stringent and low delay)	- Preserve time relation (variation) between information entities of the stream (i.e. some but constant delay)	Request response pattern Preserve payload content	Destination is not expecting the data within a certain time Preserve payload content
Example of the application	- speech, video, …	- facsimile (NT) - streaming audio and video	- Web browsing	- background download of emails

6.10.2 RAB and signalling RB

6.10.2.1 RABs and signalling RBs

In the following clauses, the typical parameter sets are presented for reference RABs, signalling RBs and important combinations of them. The data rate given for each RAB is the maximum data rate that can be supported by that RAB.

NOTE: The granularity for each RAB needs to be clarified.

Table 6.10.2.1.1: Prioritised RABs.

#	Traffic class [15]	SSD [15]	Max. rate, kbps	CS/PS
1	Conversational	Speech	UL:12.2 DL:12.2	CS
2	Conversational	Speech	UL:10.2 DL:10.2	CS
3	Conversational	Speech	UL:7.95 DL:7.95	CS
4	Conversational	Speech	UL:7.4 DL:7.4	CS
5	Conversational	Speech	UL:6.7 DL:6.7	CS
6	Conversational	Speech	UL:5.9 DL:5.9	CS
7	Conversational	Speech	UL:5.15 DL:5.15	CS
8	Conversational	Speech	UL:4.75 DL:4.75	CS
9	Conversational	Unknown	UL:64 DL:64	CS
10	Conversational	Unknown	UL:32 DL:32	CS
11	Streaming	Unknown	UL:28.8 DL:28.8	CS
12	Streaming	Unknown	UL:57.6 DL:57.6	CS
13	Streaming	Unknown	UL:0 DL:64	CS or PS
14	Streaming	Unknown	UL:64 DL:0	CS or PS
15	Streaming	Unknown	UL:0 DL:128	CS or PS
16	Streaming	Unknown	UL:128 DL:0	CS or PS
17	Streaming	Unknown	UL:0 DL:384	CS or PS
18	Interactive or Background	N/A	UL:32 DL:8	PS
19	Interactive or Background	N/A	UL:64 DL:8	PS
20	Interactive or Background	N/A	UL:32 DL:64	PS
21	Interactive or Background	N/A	UL:64 DL:64	PS
22	Interactive or Background	N/A	UL:64 DL:128	PS
23	Interactive or Background	N/A	UL:128 DL:128	PS
24	Interactive or Background	N/A	UL:64 DL:384	PS
25	Interactive or Background	N/A	UL:128 DL:384	PS
26	Interactive or Background	N/A	UL:384 DL:384	PS
27	Interactive or Background	N/A	UL:64 DL:2048	PS
28	Interactive or Background	N/A	UL:128 DL:2048	PS
29	Interactive or Background	N/A	UL:384 DL:2048	PS

Table 6.10.2.1.2: Signalling RBs

#	Maximum rate, kbps	Logical channel
1	UL:1.7 DL:1.7	DCCH
2	UL:3.4 DL:3.4	DCCH
3	UL:13.6 DL:13.6	DCCH
4	DL:40.8	DCCH
5	UL:16.6	CCCH
6	DL:45.6	CCCH
7	DL:49.8	BCCH:
8	DL:24 (alt. 6.4)	PCCH

6.10.2.2 Combinations of RABs and Signalling RBs

In this document, physical channel parameters for following combinations of RABs and signalling RBs on a CCTrCH are described.

Note: It is understood that for speech service the AMR mode may be operated asymmetrically for the uplink and downlink.

Combinations on DPCH

1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH

4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

8) Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

9) Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

10) Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB
+ UL:1.7 DL:1.7 kbps SRBs for DCCH

11) Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB
+ UL:1.7 DL:1.7 kbps SRBs for DCCH

12) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

13) Conversational / unknown / UL:32 DL:32 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

14) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

15) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

16) Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

17) Streaming / unknown / UL:64 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

18) Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

19) Streaming / unknown / UL:128 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

20) Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

21) Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

22) Interactive or background / UL:64 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

23) Interactive or background / UL:32 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

24) Interactive or background / UL:64 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

25) Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

26) Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

27) Interactive or background / UL:64 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

28) Interactive or background / UL:144 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

29) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

30) Interactive or background / UL:128 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

31) Interactive or background / UL:384 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

32) Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

33) Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

34) Interactive or background / UL:384 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

35) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

36) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

37) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:384 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

46) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

47) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

48) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

49) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

50) Interactive or /background / UL:64 kbps DL:128 kbps / PS RAB
+ Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

51) Interactive or /background / UL:64 kbps DL:128 kbps / PS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

Combinations on DSCH and DPCH

1) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

Combinations on SCCPCH

1) Stand-alone 32 kbps SRB for PCCH

2) Interactive or background / DL:32 kbps / PS RAB
+ 50.4 kbps SRB for CCCH

+ 13.6 kbps SRBs for DCCH
+ 16.6 kbps SRB for BCCH

3) Interactive or background / DL:32 kbps / PS RAB
+ 32 kbps SRB for PCCH
+ 50.4 kbps SRB for CCCH
+ 13.6 kbps SRBs for DCCH
+ 16.6 kbps SRB for BCCH

Combinations on PRACH

1) Interactive or background / UL:32 kbps / PS RAB
+ 16.6 kbps SRB for CCCH
+ 13.6 kbps SRBs for DCCH

6.10.2.3 Example of linkage between RABs and services

RABs, which are included in this document, can provide the services as shown in Table 6.10.1.1. Furthermore, the required BER for each RAB, which is assumed in this document, is shown in Table 6.10.2.3.1.

Table 6.10.2.3.1: Example of linkage between RABs and services

RAB				Residual BER [16]	Services
Traffic class [16]	**SSD [16]**	**Max. rate, kbps**	**CS/PS**		
Conversational	Speech	UL:4.75-12.2 DL:4.75-12.2	CS	$5x10^{-4}$, $1x10^{-3}$, $5x10^{-3}$	AMR speech
Conversational	Unknown	UL:64 DL:64	CS	$1x10^{-4}$ or $1x10^{-6}$	UDI 1B, 64k 3G-324M [16]
Conversational	Unknown	UL:32 DL:32	CS	$1x10^{-4}$ or $1x10^{-6}$	32k 3G-324M [16]
Streaming	Unknown	UL:28.8 DL:28.8	CS	$1x10^{-3}$	FAX [18] PIAFS 32 kbps
Streaming	Unknown	UL:57.6 DL:57.6	CS	$1x10^{-3}$	Modem [18], FTM [17] PIAFS 64 kbps
Streaming	Unknown	UL:64-128 or DL:64-384	CS or PS	$1x10^{-3}$ or $1x10^{-4}$	Streaming video, uni-directional
Interactive or Background	N/A	UL:32-384 DL:8-2048	PS	$1x10^{-3}$ or $1x10^{-4}$	Packet

Note: SMS can be provided via the signalling RB (DCCH) on DPCH or SCCPCH.

Note: CBS can be provided via the signalling RB (CTCH) on SCCPCH

Note: UDI *n*B can be provided via *n* RABs of conversational 64 kbps.

6.10.2.4 Typical parameter sets

6.10.2.4.1 Combinations on DPCH

6.10.2.4.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.1.1 Uplink

6.10.2.4.1.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		1700	1600	1600	1600
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		80			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Uplink: Max number of bits/radio frame before rate matching		65			

6.10.2.4.1.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**1.7 kbps SRB for DCCH, DCH**
	TFCS size	2
	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

6.10.2.4.1.2 Downlink

6.10.2.4.1.2.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		1700	1600	1600	1600
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		80			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			

6.10.2.4.1.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**1.7 kbps SRB for DCCH, DCH**
	DTX position		N/A (SingleTrCH)
	TFCS size		2
	Minimum spreading factor		512
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	4
		Number of data bits/frame	60

6.10.2.4.1.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.2.1 Uplink

6.10.2.4.1.2.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		3400	3200	3200	3200
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		40			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Uplink: Max number of bits/radio frame before rate matching		129			

6.10.2.4.1.2.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**3.4 kbps SRB for DCCH, DCH**
	TFCS size	2
	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

6.10.2.4.1.2.2 Downlink

6.10.2.4.1.2.2.1 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		3400	3200	3200	3200
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		40			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			

6.10.2.4.1.2.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**3.4 kbps SRB for DCCH, DCH**
	DTX position		N/A (SingleTrCH)
	TFCS size		2
	Minimum spreading factor		256
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
		Number of data bits/frame	150

6.10.2.4.1.3 Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH

6.10.2.4.1.3.1 Uplink

6.10.2.4.1.3.1.1 Transport channel parameters for UL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		13600	12800	12800	12800
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		10			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Uplink: Max number of bits/radio frame before rate matching		516			

6.10.2.4.1.3.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**13.6 kbps SRB for DCCH, DCH**
	TFCS size	2
	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	1

6.10.2.4.1.3.2 Downlink

6.10.2.4.1.3.2.1 Transport channel parameters for DL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		13600	12800	12800	12800
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		10			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			

6.10.2.4.1.3.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**13.6 kbps SRB for DCCH, DCH**
	DTX position		N/A (SingleTrCH)
	TFCS size		2
	Minimum spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

6.10.2.4.1.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.4.1 Uplink

6.10.2.4.1.4.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**	**RAB subflow #3**
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		81 39	103	60
	Max data rate, bps		12200		
	RLC header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		81 39	103	60
	TFS	TF0, bits	0	0	0
		TF1, bits	1x81	1x103	1x60
		TF2, bits	1x39	-	-
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	-	-
	Max number of bits/TTI after channel coding		303	333	136
	Uplink: Max number of bits/radio frame before rate matching		152	167	68

6.10.2.4.1.4.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.4.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	Min spreading factor	64			
	Max number of DPDCH data bits/radio frame	600			
	Puncturing Limit	1			

6.10.2.4.1.4.2 Downlink

6.10.2.4.1.4.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**	**RAB subflow #3**
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		81 39	103	60
	Max data rate, bps		12200		
	RLC header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		81 39	103	60
	TFS	TF0, bits	0	0	0
		TF1, bits	1x81	1x103	1x60
		TF2, bits	1x39	-	-
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	-	-
	Max number of bits/TTI after channel coding		303	333	136

6.10.2.4.1.4.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.4.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH. DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute		TBD	TBD	TBD	TBD
	TFCS size		6			
	DTX position		Fixed			
	Spreading factor		128			
	DPCCH	Number of TFCI bits/slot	0			
		Number of TPC bits/slot	2			
		Number of Pilot bits/slot	4			
	DPDCH	Number of data bits/slot	34			
		Number of data bits/frame	510			

6.10.2.4.1.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.5.1 Uplink

6.10.2.4.1.5.1.1 Transport channel parameters for Conversational / speech / UL:10.2 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**	**RAB subflow #3**
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		65 39	99	40
	Max data rate, bps		10200		
	RLC header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		65 39	99	40
	TFS	TF0, bits	0	0	0
		TF1, bits	1x65	1x99	1x40
		TF2, bits	1x39	-	-
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	-	-
	Max number of bits/TTI after channel coding		255	321	96
	Uplink: Max number of bits/radio frame before rate matching		128	161	48

6.10.2.4.1.5.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.5.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech 10.2 kbps / CS RAB**			**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	Min spreading factor	64			
	Max number of DPDCH data bits/radio frame	600			
	Puncturing Limit	1			

6.10.2.4.1.5.2 Downlink

6.10.2.4.1.5.2.1 Transport channel parameters for Conversational / speech / DL:10.2 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**	**RAB subflow #3**
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		65 39	99	40
	Max data rate, bps		10200		
	RLC header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		65 39	99	40
	TFS	TF0, bits	0	0	0
		TF1, bits	1x65	1x99	1x40
		TF2, bits	1x39	-	-
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	-	-
	Max number of bits/TTI after channel coding		255	321	96

6.10.2.4.1.5.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.5.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 10.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute		TBD	TBD	TBD	TBD
	TFCS size		6			
	DTX position		Fixed			
	Spreading factor		128			
	DPCCH	Number of TFCI bits/slot	0			
		Number of TPC bits/slot	2			
		Number of Pilot bits/slot	4			
	DPDCH	Number of data bits/slot	34			
		Number of data bits/frame	510			

6.10.2.4.1.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.6.1 Uplink

6.10.2.4.1.6.1.1 Transport channel parameters for Conversational / speech / UL:7.95 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		75 39	84
	Max data rate, bps		7950	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		75 39	84
	TFS	TF0, bits	0	0
		TF1, bits	1x75	1x84
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		285	276
	Uplink: Max number of bits/radio frame before rate matching		143	138

6.10.2.4.1.6.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.6.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 7.95 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.6.2 Downlink

6.10.2.4.1.6.2.1 Transport channel parameters for Conversational / speech / DL:7.95 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		75 39	84
	Max data rate, bps		7950	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		75 39	84
	TFS	TF0, bits	0	0
		TF1, bits	1x75	1x84
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		285	276

6.10.2.4.1.6.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1

6.10.2.4.1.6.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 7.95 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		128		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.7.1 Uplink

6.10.2.4.1.7.1.1 Transport channel parameters for Conversational / speech / UL:7.4 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		61 39	87
	Max data rate, bps		7400	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		61 39	87
	TFS	TF0, bits	0	0
		TF1, bits	1x61	1x87
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		243	285
	Uplink: Max number of bits/radio frame before rate matching		122	143

6.10.2.4.1.7.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.7.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 7.4 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.7.2 Downlink

6.10.2.4.1.7.2.1 Transport channel parameters for Conversational / speech / DL:7.4 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		61 39	87
	Max data rate, bps		7400	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		61 39	87
	TFS	TF0, bits	0	0
		TF1, bits	1x61	1x87
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		243	285

6.10.2.4.1.7.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.7.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 7.4 kbps / CS RAB**		**3.4 kbps SRBs for DCCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		128		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.8 Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.8.1 Uplink

6.10.2.4.1.8.1.1 Transport channel parameters for Conversational / speech / UL:6.7 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		58 39	76
	Max data rate, bps		6700	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		58 39	76
	TFS	TF0, bits	0	0
		TF1, bits	1x58	1x76
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		234	252
	Uplink: Max number of bits/radio frame before rate matching		117	126

6.10.2.4.1.8.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.8.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 6.7 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.8.2 Downlink

6.10.2.4.1.8.2.1 Transport channel parameters for Conversational / speech / DL:6.7 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		58 39	76
	Max data rate, bps		6700	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		58 39	76
	TFS	TF0, bits	0	0
		TF1, bits	1x58	1x76
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		234	252

6.10.2.4.1.8.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1

6.10.2.4.1.8.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 6.7 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		128		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.9.1 Uplink

6.10.2.4.1.9.1.1 Transport channel parameters for Conversational / speech / UL:5.9 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		55 39	63
	Max data rate, bps		5900	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		55 39	63
	TFS	TF0, bits	0	0
		TF1, bits	1x55	1x63
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		225	213
	Uplink: Max number of bits/radio frame before rate matching		113	107

6.10.2.4.1.9.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 5.4.1.2.1.1.

6.10.2.4.1.9.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 5.9 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.9.2 Downlink

6.10.2.4.1.9.2.1 Transport channel parameters for Conversational / speech / DL:5.9 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		55 39	63
	Max data rate, bps		5900	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		55 39	63
	TFS	TF0, bits	0	0
		TF1, bits	1x55	1x63
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		225	213

6.10.2.4.1.9.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.9.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 5.9 kbps / CS RAB, DCH**		**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		128		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.10.1 Uplink

6.10.2.4.1.10.1.1 Transport channel parameters for Conversational / speech / UL:5.15 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		49 39	54
	Max data rate, bps		5150	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		49 39	54
	TFS	TF0, bits	0	0
		TF1, bits	1x49	1x54
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		207	186
	Uplink: Max number of bits/radio frame before rate matching		104	93

6.10.2.4.1.10.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.10.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 5.15 kbps / CS RAB, DCH**		**1.7 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	128		
	Max number of DPDCH data bits/radio frame	300		
	Puncturing Limit	1		

6.10.2.4.1.10.2 Downlink

6.10.2.4.1.10.2.1 Transport channel parameters for Conversational / speech / DL:5.15 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		49 39	54
	Max data rate, bps		5150	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		49 39	54
	TFS	TF0, bits	0	0
		TF1, bits	1x49	1x54
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		207	186

6.10.2.4.1.10.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.10.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 5.15 kbps / CS RAB, DCH**		**1.7 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		256		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	14		
		Number of data bits/frame	210		

6.10.2.4.1.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.11.1 Uplink

6.10.2.4.1.11.1.1 Transport channel parameters for Conversational / speech / UL:4.75 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		42 39	53
	Max data rate, bps		4750	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		42 39	53
	TFS	TF0, bits	0	0
		TF1, bits	1x42	1x53
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		186	183
	Uplink: Max number of bits/radio frame before rate matching		93	92

6.10.2.4.1.11.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.11.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 4.75 kbps / CS RAB, DCH**		**1.7 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	128		
	Max number of DPDCH data bits/radio frame	300		
	Puncturing Limit	1		

6.10.2.4.1.11.2 Downlink

6.10.2.4.1.11.2.1 Transport channel parameters for Conversational / speech / DL:4.75 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		42 39	53
	Max data rate, bps		4750	
	RLC header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		42 39	53
	TFS	TF0, bits	0	0
		TF1, bits	1x42	1x53
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		186	183

6.10.2.4.1.11.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.11.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 4.75 kbps / CS RAB, DCH**		**1.7 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	
	RM attribute		TBD	TBD	TBD
	TFCS size		6		
	DTX position		Fixed		
	Spreading factor		256		
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	14		
		Number of data bits/frame	210		

6.10.2.4.1.12 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.12.1 Uplink

6.10.2.4.1.12.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		64000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0
		TF1, bits	2x640(alt. 4x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3948(alt. 7884)
	Uplink: Max number of bits/radio frame before rate matching		1974(alt. 1971)

6.10.2.4.1.12.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.12.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	4	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.12.2 Downlink

6.10.2.4.1.12.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		64000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0
		TF1, bits	2x640(alt. 4x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3948(alt. 7884)

6.10.2.4.1.12.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1.

6.10.2.4.1.12.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		4	
	DTX position		Flexible	
	Spreading factor		32	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	140	
		Number of data bits/frame	2100	

6.10.2.4.1.13 Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.13.1 Uplink

6.10.2.4.1.13.1.1 Transport channel parameters for Conversational / unknown / UL:32 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		32000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0
		TF1, bits	1x640(alt. 2x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1980(alt. 3948)
	Uplink: Max number of bits/radio frame before rate matching		990(alt. 987)

6.10.2.4.1.13.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.13.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 32 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	4	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.13.2 Downlink

6.10.2.4.1.13.2.1 Transport channel parameters for Conversational / unknown / DL:32 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		32000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0
		TF1, bits	1x640(alt. 2x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1980(alt. 3948)

6.10.2.4.1.13.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.13.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / unknown / 32 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		4	
	DTX position		Flexible	
	Spreading factor		64	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	60	
		Number of data bits/frame	900	

6.10.2.4.1.14 Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.14.1 Uplink

6.10.2.4.1.14.1.1 Transport channel parameters for Streaming / unknown / UL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		28800
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3564
	Uplink: Max number of bits/radio frame before rate matching		891

6.10.2.4.1.14.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.14.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Streaming / unknown / 28.8 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	6	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.14.2 Downlink

6.10.2.4.1.14.2.1 Transport channel parameters for Streaming / unknown / DL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		28800
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3564

6.10.2.4.1.14.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.14.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Streaming / unknown / 28.8 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		6	
	DTX position		Flexible	
	Spreading factor		64	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	60	
		Number of data bits/frame	900	

6.10.2.4.1.15 Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.15.1 Uplink

6.10.2.4.1.15.1.1 Transport channel parameters for Streaming / unknown / UL:57.6 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		57600
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		7116
	Uplink: Max number of bits/radio frame before rate matching		1779

6.10.2.4.1.15.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.15.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Streaming / unknown / 57.6 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.15.2 Downlink

6.10.2.4.1.15.2.1 Transport channel parameters for Streaming / unknown / DL:57.6 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		57600
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		7116

6.10.2.4.1.15.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.15.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Streaming / unknown / 57.6 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		10	
	DTX position		Flexible	
	Spreading factor		32	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	140	
		Number of data bits/frame	2100	

6.10.2.4.1.16 Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.16.1 Uplink

6.10.2.4.1.16.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.16.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.16.1.3 Physical channel parameters

See 6.10.2.4.1.2.1.2.

6.10.2.4.1.16.2 Downlink

6.10.2.4.1.16.2.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		64000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076

6.10.2.4.1.16.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.16.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Streaming / unknown / 64 kbps / CS or PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		5	
	DTX position		Flexible	
	Spreading factor		32	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	140	
		Number of data bits/frame	2100	

6.10.2.4.1.17 Streaming / unknown / UL:64 DL:0 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.17.1 Uplink

6.10.2.4.1.17.1.1 Transport channel parameters for Streaming / unknown / UL:64 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		64000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Uplink: Max number of bits/radio frame before rate matching		2019

6.10.2.4.1.17.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.17.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS or PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	5	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.17.2 Downlink

6.10.2.4.1.17.2.1 Transport channel parameters for Streaming / unknown / DL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.17.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.17.2.3 Physical channel parameters

See 6.10.2.4.1.2.2.2.

6.10.2.4.1.18 Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.18.1 Uplink

6.10.2.4.1.18.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.18.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.18.1.3 Physical channel parameters

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.18.2 Downlink

6.10.2.4.1.18.2.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		128000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
		TF5, bits	16x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		16152

6.10.2.4.1.18.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.18.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 128 kbps / CS or PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		6	
	DTX position		Flexible	
	Spreading factor		16	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	288	
		Number of data bits/frame	4320	

6.10.2.4.1.19 Streaming / unknown / UL:128 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.19.1 Uplink

6.10.2.4.1.19.1.1 Transport channel parameters for Streaming / unknown / UL:128 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		128000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
		TF5, bits	16x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		16152
	Uplink: Max number of bits/radio frame before rate matching		4038

6.10.2.4.1.19.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.19.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 128 kbps / CS or PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	6	
	Min spreading factor	8	
	Max number of DPDCH data bits/radio frame	4800	
	Puncturing Limit	1	

6.10.2.4.1.19.2 Downlink

6.10.2.4.1.19.2.1 Transport channel parameters for Streaming / unknown / DL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.19.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.19.2 Physical channel parameters

See 6.10.2.4.1.2.2.2.

6.10.2.4.1.20 Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.20.1 Uplink

6.10.2.4.1.20.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.20.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.20.1.3 Physical channel parameters

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.20.2 Downlink

6.10.2.4.1.20.2.1 Transport channel parameters for Streaming / unknown / DL:384 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		384000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
		TF5, bits	16x320
		TF6, bits	32x320
		TF7, bits	48x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		48432

6.10.2.4.1.20.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.20.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 384 kbps / CS or PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		12(alt. 14)	
	DTX position		Flexible	
	Spreading factor		8	
	Number of DPDCH		1	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	608	
		Number of data bits/frame	9120	

6.10.2.4.1.21 Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.21.1 Uplink

6.10.2.4.1.21.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336 (alt. TF2 is N/A)
	TTI, ms		20 (alt. 10)
	Coding type		TC (alt. CC 1/3)
	CRC, bit		16
	Max number of bits/TTI after channel coding		2124 (alt. 1080)
	Uplink: Max number of bits/radio frame before rate matching		1062 (alt. 1080)

6.10.2.4.1.21.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.21.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Interactive or background / 32 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	6 (alt. 4)	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.21.2 Downlink

6.10.2.4.1.21.2.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		8000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
	TTI, ms		40
	Coding type		TC (alt. CC 1/3)
	CRC, bit		16
	Max number of bits/TTI after channel coding		1068 (alt. 1080)

6.10.2.4.1.21.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.21.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 8 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		4	
	DTX position		Flexible	
	Spreading factor		128	
	DPCCH	Number of TFCI bits/slot	2	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	32	
		Number of data bits/frame	480	

6.10.2.4.1.22 Interactive or background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.22.1 Uplink

6.10.2.4.1.22.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		64000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4236
	Uplink: Max number of bits/radio frame before rate matching		2118

6.10.2.4.1.22.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.22.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	8	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.22.2 Downlink

See 6.10.2.4.1.21.2.

6.10.2.4.1.23 Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.23.1 Uplink

See 6.10.2.4.1.21.1.

6.10.2.4.1.23.2 Downlink

6.10.2.4.1.23.2.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		64000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4236

6.10.2.4.1.23.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.23.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		8	
	DTX position		Flexible	
	Spreading factor		32	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	4	
		Number of Pilot bits/slot	8	
	DPDCH	Number of data bits/slot	140	
		Number of data bits/frame	2100	

6.10.2.4.1.24 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.24.1 Uplink

See 5.4.1.22.1.

6.10.2.4.1.24.2 Downlink

See 5.4.1.23.2

6.10.2.4.1.25 Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.25.1 Uplink

See 6.10.2.4.1.22.1

6.10.2.4.1.25.2 Downlink

6.10.2.4.1.25.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		128000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8460

6.10.2.4.1.25.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.25.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		10	
	DTX position		Flexible	
	Spreading factor		16	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	288	
		Number of data bits/frame	4320	

6.10.2.4.1.26 Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.25.1 Uplink

6.10.2.4.1.25.1.1 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		128000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8460
	Uplink: Max number of bits/radio frame before rate matching		4230

6.10.2.4.1.25.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.25.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	8	
	Max number of DPDCH data bits/radio frame	4800	
	Puncturing Limit	1	

6.10.2.4.1.25.2 Downlink

See 6.10.2.4.1.25.2.

6.10.2.4.1.27 Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.27.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.27.2 Downlink

6.10.2.4.1.27.2.1 Transport channel parameters for Interactive or background / DL:144 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		144000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	9x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		9516

6.10.2.4.1.27.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.27.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 144 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		10	
	DTX position		Flexible	
	Spreading factor		16	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	288	
		Number of data bits/frame	4320	

6.10.2.4.1.28 Interactive or background / UL:144 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.28.1 Uplink

6.10.2.4.1.28.1.1 Transport channel parameters for Interactive or background / UL:144 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		144000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	9 x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		9516
	Uplink: Max number of bits/radio frame before rate matching		4758

6.10.2.4.1.28.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.28.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Interactive or background / 144 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	4	
	Max number of DPDCH data bits/radio frame	9600	
	Puncturing Limit	1	

6.10.2.4.1.28.2 Downlink

See 6.10.2.4.1.28.2.

6.10.2.4.1.29 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.29.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.29.2 Downlink

6.10.2.4.1.29.2.1 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		384000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	12x336
		(alt. TF6, bits)	(alt. 24 x336)
	TTI, ms		10(alt. 20)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		12684(alt. 25368)

6.10.2.4.1.29.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.29.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 384 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		12(alt. 14)	
	DTX position		Flexible	
	Spreading factor		8	
	Number of DPDCH		1	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	608	
		Number of data bits/frame	9120	

6.10.2.4.1.30 Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.30.1 Uplink

See 6.10.2.4.1.26.1.

6.10.2.4.1.30.2 Downlink

See 6.10.2.4.1.29.2.

6.10.2.4.1.31 Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.31.1 Uplink

6.10.2.4.1.31.1.1 Transport channel parameters for Interactive or background / UL:384 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		384000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	12x336
		(alt. TF6, bits)	(alt. 24 x336)
	TTI, ms		10(alt. 20)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		12684(alt. 25368)
	Uplink: Max number of bits/radio frame before rate matching		12684

6.10.2.4.1.31.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.31.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Interactive or background / 384 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	12(alt. 14)	
	Min spreading factor	4	
	Max number of DPDCH data bits/radio frame	9600	
	Number of DPDCH	1	
	Puncturing Limit	0.72	

6.10.2.4.1.31.2 Downlink

See 6.10.2.4.1.29.2.

6.10.2.4.1.32 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.32.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.32.2 Downlink

6.10.2.4.1.32.2.1 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		2048000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4 x656
		TF4, bits	8 x656
		TF5, bits	16x656
		TF6, bits	32x656
		(alt. TF7, bits)	(alt. 64x656)
	TTI, ms		10(alt. 20)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		64572 (alt. 129132)

6.10.2.4.1.32.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.32.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 2048 kbps / PS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute		TBD	TBD
	TFCS size		14(alt. 16)	
	DTX position		Flexible	
	Spreading factor		4	
	Number of DPCH		3	
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	1248	
		Number of data bits/frame	18720	

6.10.2.4.1.33 Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.33.1 Uplink

See 6.10.2.4.1.26.1.

6.10.2.4.1.33.2 Downlink

See 6.10.2.4.1.28.2.

6.10.2.4.1.34 Interactive or background / UL:384 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.34.1 Uplink

See 6.10.2.4.1.31.1.

6.10.2.4.1.34.2 Downlink

See 6.10.2.4.1.28.2.

6.10.2.4.1.35 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.35.1 Uplink

6.10.2.4.1.35.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.35.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See 6.10.2.4.1.21.1.1.

6.10.2.4.1.35.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.35.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 32 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	18				
	Min spreading factor	16				
	Max number of DPDCH data bits/radio frame	2400				
	Puncturing Limit	1				

6.10.2.4.1.35.2 Downlink

6.10.2.4.1.35.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.35.2.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See 6.10.2.4.1.21.2.1.

6.10.2.4.1.35.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.35.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 8 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		18				
	DTX position		Flexible				
	Spreading factor		64				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	4				
		Number of Pilot bits/slot	8				
	DPDCH	Number of data bits/slot	60				
		Number of data bits/frame	900				

6.10.2.4.1.36 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.36.1 Uplink

See 6.10.2.4.1.31.1.

6.10.2.4.1.36.2 Downlink

6.10.2.4.1.36.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.36.2.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See 6.10.2.4.1.23.2.1.

6.10.2.4.1.36.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.36.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		24				
	DTX position		Flexible				
	Spreading factor		32				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	4				
		Number of Pilot bits/slot	8				
	DPDCH	Number of data bits/slot	140				
		Number of data bits/frame	2100				

6.10.2.4.1.37 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.37.1 Uplink

6.10.2.4.1.37.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.37.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See 6.10.2.4.1.22.1.

6.10.2.4.1.37.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.37.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	24				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.37.2 Downlink

See 6.10.2.4.1.32.2.

6.10.2.4.1.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.1.38.2 Downlink

6.10.2.4.1.38.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1

6.10.2.4.1.38.2.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.

6.10.2.4.1.38.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.38.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		30				
	DTX position		Flexible				
	Spreading factor		16				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	8				
		Number of Pilot bits/slot	16				
	DPDCH	Number of data bits/slot	288				
		Number of data bits/frame	4320				

6.10.2.4.1.39 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.39.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.1.39.2 Downlink

6.10.2.4.1.39.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.39.2.2 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.

6.10.2.4.1.39.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.39.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 384 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		36(alt. 42)				
	DTX position		Flexible				
	Spreading factor		8				
	Number of DPDCH		1				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	8				
		Number of Pilot bits/slot	16				
	DPDCH	Number of data bits/slot	608				
		Number of data bits/frame	9120				

6.10.2.4.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.40.1 Uplink

6.10.2.4.1.40.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.40.1.2 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

See 6.10.2.4.1.26.1.

6.10.2.4.1.40.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.40.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.40.2 Downlink

6.10.2.4.1.40.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.40.2.2 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.1

6.10.2.4.1.40.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.40.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 2048 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		42(alt. 48)				
	DTX position		Flexible				
	Spreading factor		4				
	Number of DPDCH		3				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	8				
		Number of Pilot bits/slot	16				
	DPDCH	Number of data bits/slot	1248				
		Number of data bits/frame	18720				

6.10.2.4.1.41 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.41.1 Uplink

6.10.2.4.1.41.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.41.1.2 Transport channel parameters for Streaming / unknown / UL:57.6 kbps / CS RAB

See 5.4.1.15.1.1.

6.10.2.4.1.41.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.41.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	*Conversational / speech / 12.2 kbps / CS RAB, DCH*			*Streaming / 57.6 kbps / CS RAB, DCH*	*3.4 kbps SRBs for DCCH, DCH*
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	Min spreading factor	16				
	Max number of DPDCH data bits/radio frame	2400				
	Puncturing Limit	1				

6.10.2.4.1.41.2 Downlink

6.10.2.4.1.41.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.41.2.2 Transport channel parameters for Streaming / unknown / DL:57.6 kbps / CS RAB

See 6.10.2.4.1.15.2.1.

6.10.2.4.1.41.2.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.41.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Streaming / 57.6 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		30				
	DTX position		Flexible				
	Spreading factor		32				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	4				
		Number of Pilot bits/slot	8				
	DPDCH	Number of data bits/slot	140				
		Number of data bits/frame	2100				

6.10.2.4.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.42.1 Uplink

See 6.10.2.4.1.4.1.

6.10.2.4.1.42.2 Downlink

6.10.2.4.1.42.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.42.2.2 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

See 6.10.2.4.1.16.2.1.

6.10.2.4.1.42.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.42.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Streaming / 64 kbps / CS or PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		36				
	DTX position		Flexible				
	Spreading factor		32				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	4				
		Number of Pilot bits/slot	8				
	DPDCH	Number of data bits/slot	140				
		Number of data bits/frame	2100				

6.10.2.4.1.43 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.43.1 Uplink

See 6.10.2.4.1.4.1.

6.10.2.4.1.43.2 Downlink

6.10.2.4.1.43.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.43.2.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

See 6.10.2.4.1.18.2.1.

6.10.2.4.1.43.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.43.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Streaming / 128 kbps / CS or PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		30				
	DTX position		Flexible				
	Spreading factor		16				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	8				
		Number of Pilot bits/slot	16				
	DPDCH	Number of data bits/slot	288				
		Number of data bits/frame	4320				

6.10.2.4.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.44.1 Uplink

See 5.4.1.4.1.

6.10.2.4.1.44.2 Downlink

6.10.2.4.1.44.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.44.2.2 Transport channel parameters for Streaming / unknown / DL:384 kbps / CS or PS RAB

See 6.10.25.4.1.22.2.1.

6.10.2.4.1.44.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.44.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Streaming / 384 kbps / CS or PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		30				
	DTX position		Flexible				
	Spreading factor		8				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	8				
		Number of Pilot bits/slot	16				
	DPDCH	Number of data bits/slot	608				
		Number of data bits/frame	9120				

6.10.2.4.1.45 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.45.1 Uplink

6.10.2.4.1.45.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.45.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1

6.10.2.4.1.45.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.45.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	12				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.45.2 Downlink

6.10.2.4.1.45.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.45.2.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.45.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.45.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute		TBD	TBD	TBD	TBD	TBD
	TFCS size		12				
	DTX position		Flexible				
	Spreading factor		32				
	DPCCH	Number of TFCI bits/slot	8				
		Number of TPC bits/slot	4				
		Number of Pilot bits/slot	8				
	DPDCH	Number of data bits/slot	140				
		Number of data bits/frame	2100				

6.10.2.4.1.46 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.46.1 Uplink

6.10.2.4.1.46.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.5.4.1.12.1.1.

6.10.2.4.1.46.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.46.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute	TBD	TBD	TBD
	TFCS size	8		
	Min spreading factor	8		
	Max number of DPDCH data bits/radio frame	4800		
	Puncturing Limit	1		

6.10.2.4.1.46.2 Downlink

6.10.2.4.1.46.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.46.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.46.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute		TBD	TBD	TBD
	TFCS size		8		
	DTX position		Flexible		
	Spreading factor		16		
	DPCCH	Number of TFCI bits/slot	8		
		Number of TPC bits/slot	8		
		Number of Pilot bits/slot	16		
	DPDCH	Number of data bits/slot	288		
		Number of data bits/frame	4320		

6.10.2.4.1.47 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.47.1 Uplink

6.10.2.4.1.47.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1.

6.10.2.4.1.47.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See 6.10.2.4.1.22.1.1.

6.10.2.4.1.47.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.47.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute	TBD	TBD	TBD
	TFCS size	16		
	Min spreading factor	8		
	Max number of DPDCH data bits/radio frame	4800		
	Puncturing Limit	1		

6.10.2.4.1.47.2 Downlink

6.10.2.4.1.47.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.47.2.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See 6.10.2.4.1.23.2.1.

6.10.2.4.1.47.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.47.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute		TBD	TBD	TBD
	TFCS size		16		
	DTX position		Flexible		
	Spreading factor		16		
	DPCCH	Number of TFCI bits/slot	8		
		Number of TPC bits/slot	8		
		Number of Pilot bits/slot	16		
	DPDCH	Number of data bits/slot	288		
		Number of data bits/frame	4320		

6.10.2.4.1.48 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.48.1 Uplink

See 6.10.2.4.1.43.1.

6.10.2.4.1.48.2 Downlink

6.10.2.4.1.48.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.

6.10.2.4.1.48.2.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.48.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.48.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute		TBD	TBD	TBD
	TFCS size		20		
	DTX position		Flexible		
	Spreading factor		8		
	DPCCH	Number of TFCI bits/slot	8		
		Number of TPC bits/slot	8		
		Number of Pilot bits/slot	16		
	DPDCH	Number of data bits/slot	608		
		Number of data bits/frame	9120		

6.10.2.4.1.49 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.49.1 Uplink

6.10.2.4.1.49.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1.

6.10.2.4.1.49.1.2 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

See 6.10.2.4.1.26.1.1

6.10.2.4.1.49.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.49.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**Interactive or background / 128 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute	TBD	TBD	TBD
	TFCS size	20		
	Min spreading factor	4		
	Max number of DPDCH data bits/radio frame	9600		
	Puncturing Limit	1		

6.10.2.4.1.49.2 Downlink

See 6.10.2.4.1.44.2.

6.10.2.4.1.50 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.50.1 Uplink

See 6.10.2.4.1.22.1.1.

6.10.2.4.1.50.2 Downlink

6.10.2.4.1.50.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.50.2.2 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

See 6.10.2.4.1.16.2.1.

6.10.2.4.1.50.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.50.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 128 kbps / PS RAB, DCH**	**Streaming / unknown / 64 kbps / CS or PS RAB**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute		TBD	TBD	TBD
	TFCS size		50		
	DTX position		Flexible		
	Spreading factor		8		
	DPCCH	Number of TFCI bits/slot	8		
		Number of TPC bits/slot	8		
		Number of Pilot bits/slot	16		
	DPDCH	Number of data bits/slot	608		
		Number of data bits/frame	9120		

6.10.2.4.1.51 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.51.1 Uplink

See 6.10.2.4.1.46.1.

6.10.2.4.1.51.2 Downlink

6.10.2.4.1.51.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.51.2.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

See 6.10.2.4.1.18.2.1.

6.10.2.4.1.51.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.51.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		**Interactive or background / 128 kbps / PS RAB, DCH**	**Streaming / unknown / 128 kbps / CS or PS RAB**	**3.4 kbps SRBs for DCCH, DCH**
	RM attribute		TBD	TBD	TBD
	TFCS size		50		
	DTX position		Flexible		
	Spreading factor		8		
	DPCCH	Number of TFCI bits/slot	8		
		Number of TPC bits/slot	8		
		Number of Pilot bits/slot	16		
	DPDCH	Number of data bits/slot	608		
		Number of data bits/frame	9120		

6.10.2.4.2 Combinations on PDSCH and DPCH

6.10.2.4.2.1 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.2.1.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.2.1.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.3 Physical channel parameters

PDSCH	RAB or SRB, TrCh		**Interactive or background / 384 kbps / PS RAB, DSCH**
	TFCS size		6(alt. 7)
	DTX position		N/A (SingleTrCH)
	Spreading factor		4
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		**3.4 kbps SRB for DCCH, DCH**
	DTX position		N/A (SingleTrCH)
	Minimum spreading factor		256
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
		Number of data bits/frame	150

6.10.2.4.2.2 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.2.2.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.2.2.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.3 Physical channel parameters

PDSCH	RAB or SRB, TrCh		**Interactive or background / 2048 kbps / PS RAB, DSCH**
	TFCS size		7(alt. 8)
	DTX position		N/A (SingleTrCH)
	Spreading factor		4
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		3.4 kbps SRB for DCCH, DCH
	DTX position		N/A (SingleTrCH)
	Minimum spreading factor		256
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
		Number of data bits/frame	150

6.10.2.4.2.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.2.3.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.2.3.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.1.

6.10.2.4.2.1.2.3 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.4 Physical channel parameters

PDSCH	RAB or SRB, TrCh		**Interactive or background / 384 kbps / PS RAB, DSCH**			
	TFCS size		6(alt. 7)			
	DTX position		N/A (SingleTrCH)			
	Spreading factor		4			
DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH. DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute		TBD	TBD	TBD	TBD
	TFCS size		6			
	DTX position		Fixed			
	Spreading factor		128			
	DPCCH	Number of TFCI bits/slot	0			
		Number of TPC bits/slot	2			
		Number of Pilot bits/slot	4			
	DPDCH	Number of data bits/slot	34			
		Number of data bits/frame	510			

6.10.2.4.2.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.2.4.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.2.4.2 Downlink

6.10.2.4.2.4.2.1 Transport channel parameters for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.2.4.2.2 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.

6.10.2.4.2.4.2.3 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.4.2.4 Physical channel parameters

PDSCH	RAB or SRB, TrCh		**Interactive or background / 2048 kbps / PS RAB, DSCH**			
	TFCS size		7(alt. 8)			
	DTX position		N/A (SingleTrCH)			
	Spreading factor		4			
DPCH Downlink	RAB or SRB, TrCh		**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH. DCH**
			RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute		TBD	TBD	TBD	TBD
	TFCS size		6			
	DTX position		Fixed			
	Spreading factor		128			
	DPCCH	Number of TFCI bits/slot	0			
		Number of TPC bits/slot	2			
		Number of Pilot bits/slot	4			
	DPDCH	Number of data bits/slot	34			
		Number of data bits/frame	510			

6.10.2.4.3 Combinations on SCCPCH

6.10.2.4.3.1 Stand-alone signalling RB for PCCH

6.10.2.4.3.1.1 Transport channel parameter

Higher layer	RAB/signalling RB		**SRB**
	User of Radio Bearer		RRC
RLC	Logical channel type		PCCH
	RLC mode		TM
	Payload sizes, bit		240 (alt. 64)
	Max data rate, bps		24000 (alt. 6400)
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		PCH
	TB sizes, bit		240 (alt. 64)
	TFS	TF1, bts	0
		TF0, bits	1x240 (alt. 1x64)
	TTI, ms		10
	Coding type		CC 1/2
	CRC, bit		16
	Max number of bits/TTI before rate matching		528 (alt. 176)

6.10.2.4.3.1.2 Physical channel parameters

SCCPCH	TFCS size		2
	DTX position		N/A (SingleTrCH)
	Spreading factor		128(alt. 256)
	DPCCH	Number of TFCI bits/slot	0
		Number of Pilot bits/slot	0
		Number of data bits/slot	40(alt. 20)
	DPDCH	Number of data bits/frame	600(alt. 300)

6.10.2.4.3.2 Interactive/Background 32 kbps PS RAB + 50.4 kbps SRBs for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH

6.10.2.4.3.2.1 Transport channel parameters

Higher layer	RAB/signalling RB		**RAB**	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**SRB#5**	**SRB#6**
	User of Radio Bearer		Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type		DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode		AM	UM	UM	AM	AM	AM	TM
	Payload sizes, bit		320	152	136	128	128	128	166
	Max data rate, bps		32000	45600	40800	38400	38400	38400	49800
	RLC header, bit		16	8	8	16	16	16	0
MAC	MAC header, bit		24	8	24	24	24	24	2
	MAC multiplexing		N/A	6 logical channel multiplexing					
Layer 1	TrCH type		FACH	FACH					
	TB sizes, bit		360	168					
	TFS	TF0, bits	0	0					
		TF1, bits	1x360	1x168					
		TF2, bits	-	2x168					
		TF3, bits	-	3x168					
	TTI, ms		10	10					
	Coding type		TC	CC 1/2					
	CRC, bit		16	16					
	Max number of bits/TTI before rate matching		1140	1120					

6.10.2.4.3.2.2 Physical channel parameters

SCCPCH	TFCS size		TBD
	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of Pilot bits/slot	0
		Number of data bits/slot	72
	DPDCH	Number of data bits/frame	1080

6.10.2.4.3.3 Interactive/Background 32 kbps RAB + SRBs for PCCH + 50.4 kbps SRB for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH

6.10.2.4.3.3.1 Transport channel parameters

Higher layer	RAB/signalling RB		**RAB**	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**SRB#5**	**SRB#6**	**SRB#7**
	User of Radio Bearer		Interactive/ Background RAB	RRC	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type		DTCH	PCCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode		AM	TM	UM	UM	AM	AM	AM	TM
	Payload sizes, bit		320	240 (alt. 64)	152	136	128	128	128	166
	Max data rate, bps		32000	24000 (alt. 6400)	45600	40800	38400	38400	38400	49800
	RLC header, bit		16	0	8	8	16	16	16	0
MAC	MAC header, bit		24	0	8	24	24	24	24	2
	MAC multiplexing		N/A	N/A	6 logical channel multiplexing					
Layer 1	TrCH type		FACH	PCH	FACH					
	TB sizes, bit		360	240 (alt. 64)	168					
	TFS	TF0, bits	0	0	0					
		TF1, bits	1x360	1x240 (alt. 1x64)	1x168					
		TF2, bits	-	-	2x168					
		TF3, bits	-	-	3x168					
	TTI, ms		10	10	10					
	Coding type		TC	CC 1/2	CC 1/2					
	CRC, bit		16	16	16					
	Max number of bits/TTI before rate matching		1140	528 (alt. 176)	1120					

6.10.2.4.3.3.2 Physical channel parameters

SCCPCH	TFCS size		TBD
	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of Pilot bits/slot	0
		Number of data bits/slot	72
	DPDCH	Number of data bits/frame	1080

6.10.2.4.4 Combinations on PRACH

6.10.2.4.4.1 Interactive/Background 32 kbps PS RAB + 16.6 kbps SRB for CCCH + 13.6 kbps SRB for DCCH

6.10.2.4.4.1.1 Transport channel parameter

Higher layer	RAB/signalling RB		**RAB**	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**SRB#5**
	User of Radio Bearer		Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode		AM	UM	UM	AM	AM	AM
	Payload sizes, bit		320	166	136	128	128	128
	Max data rate, bps		32000	16600	13600	12800	12800	12800
	RLC header, bit		16	0	8	16	16	16
MAC	MAC header, bit		24	2	24	24	24	24
	MAC multiplexing		6 logical channel multiplexing					
Layer 1	TrCH type		RACH					
	TB sizes, bit		360	168	168	168	168	168
	TFS	TF0, bits	0					
		TF1, bits	1x168					
		TF2, bits	1x360					
	TTI, ms		10					
	Coding type		CC 1/2					
	CRC, bit		16					
	Max number of bits/TTI before rate matching		768	384	384	384	384	384

6.10.2.4.4.1.2 Physical channel parameters

PRACH	TFCS size	3
	DTX position	Flexible
	Minimum Spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1

7 Generic setup procedures

7.1 Basic Generic Procedures

7.1.1 UE Test States for Basic Generic Procedures

This clause describes a set of procedures for use by test cases in TS 34.123-1. Describing these procedures in a generic manner allows their use in many test cases. By using these procedures, test case descriptions need not detail signalling that is not relevant to its purpose or understanding.

The procedures are based upon default values that are adapted to the most common usage. Test cases that require values different from the default will, when specifying the Basic Generic Procedure, also specify those parameters that are modified.

Figure 7.1.1: UE Test States for Basic Generic Procedures

In order that the UE can set up a call in UTRAN, there are a number of procedures to be undertaken in a hierachical sequence to move between known states. The sequences are shown in Figure 7.1.1 above and the status of the relevant protocols in the UE in the different states are given in Table 7.1.1 below.

Table 7.1.1: The UE states

		RRC	CC	MM	SM	GMM
State 1	**Power OFF**	-----	null	detached	inactive	detached
State 2	**CS Registered Idle Mode**	idle	null	idle	inactive	detached
State 3	**PS Registered Idle Mode**	idle	null	detached	inactive	idle
State BGP4	**RRC Connection**	connected	null	as previous	inactive	as previous
State BGP5	**Generic RB Establishment**	connected	null	as previous	inactive	as previous

7.1.2 Mobile terminated establishment of Radio Resource Connection

7.1.2.1 Initial conditions

System Simulator:

The system simulator will start from the default idle state. Parameters will the default parameters for a single cell, unless otherwise specified in the test case.

User Equipment:

Unless otherwise specified in the test case, the UE will be in the following state:

- Default test operating conditions
- The UE shall have followed the generic registration procedure for CS or PS operations, and will be in Idle Mode, Camped-on (State 2 or State 3).

7.1.2.2 Definition of system information messages

The default system information messages are used.

7.1.2.3 Procedure

- The SS sends a PAGING TYPE 1 message to the UE on the appropriate paging block, and with the IE "Paging record" containing the TMSI or P-TMSI of the UUT.
- The SS receives an RRC CONNECTION REQUEST message from the UE.
- On receipt of the RRC CONNECTION REQUEST the SS shall transmit a RRC CONNECTION SETUP message to the UE. The SS shall wait for the receipt of an RRC CONNECTION COMPLETE message from the UE.
- On receipt of an RRC COONECTION COMPLETE message, the procedure is complete.

Step	Direction		Message	Comments
	UE	SS		
1	←		SYSTEM INFORMATION (BCCH)	Default SI messages
2	←		PAGING TYPE 1 (PCCH)	Sent on appropriate cycle
3	→		RRC CONNECTION REQUEST (CCCH)	RRC
4	←		RRC CONNECTION SETUP (CCCH)	RRC
5	→		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC

7.1.2.4 Specific message contents

7.1.2.4.1 PAGING TYPE 1

This message is sent from the SS to the UE, using the TM RLC SAP, on the PCCH logical channel:

Information Element				Value/Remark
Message Type				PAGING TYPE 1
UE Information elements				
Paging record list	Paging record	CN originator	Paging cause	Terminating Speech Call*
			CN domain identity	CS domain*
			TMSI (GSM-MAP)	As specified during Registration procedure
Other information elements				
BCCH modification info				omit

NOTE*: These defaults are applied if no subsequent procedure is to be run. Otherwise, the Paging cause and CN domain identity are selected in accordance with the requirements of the following procedure.

7.1.2.4.2 RRC CONNECTION REQUEST

This message is sent by the UE to the SS using the TM-RLC SAP. It is sent on the CCCH Logical channel.

Information Element			Value/Remark
Message Type			RRC CONNECTION REQUEST
UE information elements			
Initial UE identity	TMSI and LAI	TMSI (GSM-MAP)	As specified during Registration procedure
		LAI (GSM-MAP)	As specified by default 1 cell environment
Initial UE capability	Maximum number of AM entities		As declared in UE ICS
Establishment cause			As appropriate
Protocol error indicator			FALSE
Measurement information elements			
Measured results on RACH			Not checked

7.1.2.4.3 RRC CONNECTION SETUP

This message is sent from the SS to the UE using the UM-RLC SAP. The message is sent on the CCCH Logical channel.

The default RRC CONNECTION SETUP message for the transition to connected mode CELL_DCH is used except for the IE fields specified below.

Information Element			Value/Remark
Message Type			RRC CONNECTION SETUP
UE Information Elements			
Initial UE identity	TMSI and LAI	TMSI (GSM-MAP)	As specified during Registration procedure
		LAI (GSM-MAP)	As specified by default 1 cell environment
RB Information Elements			
Use default for 3.4k bit/s signalling radio bearer			
TrCH Information Elements			
Use default for 3.4k bit/s signalling radio bearer			
Frequency info			As specified by default 1 cell environment
Uplink radio resources			
Use default			
Downlink radio resources			
Use default			

7.1.2.4.4 RRC CONNECTION SETUP COMPLETE

This message is sent by the UE to the SS using AM-RLC SAP. The message is sent on the DCCH Logical channel.

Information Element			**Value/Remark**
Message Type			RRC CONNECTION SETUP COMPLETE
UE Information Elements			
Hyper frame number			Not checked
UE radio access capability	Conformance test compliance		R99
	PDCP capability	Support for lossless SRNS relocation	Not checked
		Supported algorithm types	Not checked
	RLC capability	Total RLC AM buffer size	Not checked
		Maximum number of AM entities	Not checked
	Transport channel capability	**Downlink**	
		Max no of bits received	Not checked
		Max convolutionally coded bits received	Not checked
		Max turbo coded bits received	Not checked
		Maximum number of simultaneous transport channels	Not checked
		Max no of received transport blocks	Not checked
		Maximum number of TFC in the TFCS	Not checked
		Maximum number of TF	Not checked
		Support for turbo decoding	Not checked
		Uplink	
		Max no of bits transmitted	Not checked
		Max convolutionally coded bits received	Not checked
		Max turbo coded bits received	Not checked
		Maximum number of simultaneous transport channels	Not checked
		Max no of transmitted transport blocks	Not checked
		Maximum number of TFC in the TFCS	Not checked
		Maximum number of TF	Not checked
		Support for turbo encoding	Not checked
	RF capability	UE power class	As declared for UE
		Tx/Rx frequency separation	Not checked
	Physical channel capability	**Downlink**	
		Maximum number of simultaneous CCTrCH	Not checked
		Max no DPCH/PDSCH codes	Not checked
		Max no physical channel bits received	Not checked
		Support for SF 512	Not checked
		Support of PDSCH	Not checked
		Simultaneous reception of SCCPCH and DPCH	Not checked
		Max no of S-CCPCH RL	Not checked
		Uplink	
		Maximum number of DPDCH bits transmitted per 10 ms	Not checked
		Support of PCPCH	Not checked
	UE multi-mode/multi-RAT capability	Multi-RAT capability	

		Multi-mode capability	FDD or FDD/TDD
	Security capability	Ciphering algorithm capability	Not checked
		Integrity protection algorithm capability	Not checked
	LCS capability	Standalone location method(s) supported	Not checked
		UE based OTDOA supported	Not checked
		Network Assisted GPS support	Not checked
		GPS reference time capable	Not checked
		Support for IPDL	Not checked
	Measurement capability	Need for downlink compressed mode	Not checked
		FDD measurements DL	Not checked
		TDD measurements DL	Not checke
		GSM 900 DL	Not checked
		DCS 1800 DL	Not checked
		GSM 1900 DL	Not checked
		Multi-carrier measurement DL	Not checked
		Need for uplink compressed mode	Not checked
		FDD measurements UL	Not checked
		TDD measurements UL	Not checked
		GSM 900 UL	Not checked
		DCS 1800 UL	Not checked
		GSM 1900 UL	Not checked
		Multi-carrier measurement UL	Not checked
UE system specific capability			Not checked

7.1.3 Radio Bearer Setup Procedure

7.1.3.1 Initial conditions

The procedure specified in clause 7.1.2 will be run. This procedure starts from the successful completion of clause 7.1.2.:

7.1.3.2 Definition of system information messages

The default system information messages are used.

7.1.3.3 Procedure

- The SS sends a RADIO BEARER SETUP message to the UE on the DCCH established by the RRC Connection Establishment procedure.
- The SS receives a RADIO BEARER SETUP COMPLETE message from the UE in RLC Acknowledged mode on the DCCH.

On receiption of the RADIO BEARER SETUP COMPLETE the procedure is complete.

Step	Direction		Message	Comments
	UE	SS		
1	←		RADIO BEARER SETUP (DCCH)	RRC
2	→		RADIO BEARER SETUP COMPLETE (DCCH)	RRC

7.1.3.4 Specific message contents

7.1.3.4.1 RADIO BEARER SETUP

The RADIO BEARER SETUP message is sent from the System Simulator to the UE, using AM-RLC on the DCCH logical channel.

The default RRC CONNECTION SETUP message for the setup of a speech radio access bearer is used except for the IE fields specified below.

Information Element		Value/Remark
Message Type		RADIO BEARER SETUP
UE Information Elements		
CN Information Elements		
RB Information Elements		
RAB information for setup	Default parameters for 12.2 kbps speech RAB	

7.1.3.4.2 RADIO BEARER SETUP COMPLETE

The RADIO BEARER SETUP COMPLETE message is sent from the UE to the System Simulator, using AM-RLC on the DCCH logical channel.

The default RADIO BEARER SETUP COMPLETE message is used .

Information Element	Value/Remark
Message Type	RADIO BEARER SETUP COMPLETE
Use default	

7.2 Generic setup procedures

7.2.1 UE Test States for Generic setup procedures

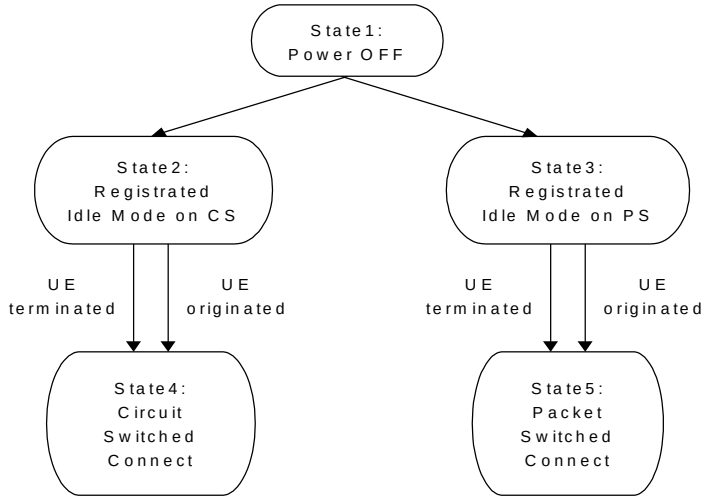

Figure 7.2.1.1: UE Test States for Generic setup procedures

In order that the UE can set up a call in UTRAN, there are a number of procedures to be undertaken in a hierarchical sequence to move between known states. The sequences are shown in Figure 7.2.1.1 above and the status of the relevant protocols in the UE in the different states are given in Table 7.2.1.1 below.

Table 7.2.1.1: The UE states

		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

7.2.2 Registration of UE

7.2.2.1 Registration on CS

7.2.2.1.1 Initial condition

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.2.1.2 Definition of system information messages

The default system information messages are used.

7.2.2.1.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5		-->	LOCATION UPDATING REQUEST	MM
6		<--	AUTHENTICATION REQUEST	MM
7		-->	AUTHENTICATION RESPONSE	MM
8		<--	SECULITY MODE COMMAND	RRC
9		-->	SECULITY MODE COMPLETE	RRC
10		<--	LOCATION UPDATING ACCEPT	MM
11		-->	TMSI RELOCATION COMPLETE	MM
12		<--	RRC CONNECTION RELEASE	RRC
13		-->	RRC CONNECTION RELEASE COMPLETE	RRC

7.2.2.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

7.2.2.2 Registration on PS

7.2.2.2.1 Initial condition

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.2.2.2 Definition of system information messages

The default system information messages are used.

7.2.2.2.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5		-->	ATTACH REQUEST	GMM
6		<--	AUTHENTICATION AND CIPHERING REQUEST	GMM
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	GMM
8		<--	SECULITY MODE COMMAND	RRC
9		-->	SECULITY MODE COMPLETE	RRC
10		<--	ATTACH ACCEPT	GMM
11		-->	ATTACH COMPLETE	GMM
12		<--	RRC CONNECTION RELEASE	RRC
13		-->	RRC CONNECTION RELEASE COMPLETE	RRC

7.2.2.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

7.2.3 Call setup

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

7.2.3.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.3.1.2 Definition of system information messages

The default system information messages are used.

7.2.3.1.3 Procedure

The Call Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (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 CONFIRMED	CC
13		<--	RADIO BEARER SETUP	RRC RAB SETUP
14		-->	RADIO BEARER SETUP COMPLETE	RRC
15		-->	ALEARTING	CC
16		-->	CONNECT	CC
17		<--	CONNECT ACKNOWLEDGE	CC

7.2.3.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

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

7.2.3.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.3.2.2 Definition of system information messages

The default system information messages are used.

7.2.3.2.3 Procedure

The Call Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5		-->	PAGING RESPONSE	RR
6		-->	CM SERVICE REQUEST	MM
5		<--	AUTHENTICATION REQUEST	MM
6		-->	AUTHENTICATION RESPONSE	MM
7		<--	SECURITY MODE COMMAND	RRC
8		-->	SECURITY MODE COMPLETE	RRC
9		-->	SET UP	CC
10		<--	CALL PROCEEDING	CC
11		<--	RADIO BEARER SETUP	RRC RAB SETUP
12		-->	RADIO BEARER SETUP COMPLETE	RRC
13		<--	ALEARTING	CC
14		<--	CONNECT	CC
15		-->	CONNECT ACKOWLEDGE	CC

7.2.3.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

7.2.4 Session setup

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

7.2.4.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.4.1.2 Definition of system information messages

The default system information messages are used.

7.2.4.1.3 Procedure

The Session Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (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		<--	REQUEST PDP CONTEXT ACTIVATION	SM
12		-->	ACTIVATE PDP CONTEXT REQUEST	SM
13		<--	RADIO BEARER SETUP	RRC RAB SETUP
14		-->	RADIO BEARER SETUP COMPLETE	RRC
15		<--	ACTIVATE PDP CONTEXT ACCEPT	SM

7.4.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

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

7.2.4.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

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

7.2.4.2.2 Definition of system information messages

The default system information messages are used.

7.2.4.2.3 Procedure

The Session Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test 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		-->	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5		-->	SERVICE REQUEST	GMM
6		<--	AUTHENTICATION AND CIPHERING REQUEST	GMM
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	GMM
8		<--	SECURITY MODE COMMAND	RRC
9		-->	SECURITY MODE COMPLETE	RRC
10		-->	ACTIVATE PDP CONTEXT REQUEST	SM
11		<--	RADIO BEARER SETUP	RRC RAB SETUP
12		-->	RADIO BEARER SETUP COMPLETE	RRC
13		<--	ACTIVATE PDP CONTEXT ACCEPT	SM

7.2.4.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 “Default Message Contents of Layer3 Messages for Layer 3 Testing”.

7.3 Test procedures for RF test

7.3.1 UE Test States for RF testing

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
State4	Test Mode	connected	null	detached	inactive	detached

7.3.2 Test procedure for TX, RX and Performance Requirement (without handover)

7.3.2.1 Initial conditions

System Simulator

1cell, default parameters.

User Equipment

The UE shall be operated under RF test conditions.

The special Test-USIM shall be inserted.

7.3.2.2 Definition of system information messages

[T.B.D.]

7.3.2.2 Procedure

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	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6	<--		ACTIVATE RB TEST MODE (DCCH)	TC
7	-->		ACTIVATE RB TEST MODE COMPLETE (DCCH)	TC
8	<--		RADIO BEARER SETUP (DCCH)	RRC (RAB SETUP using Reference Radio Bearer Configuration)
9	-->		RADIO BEARER SETUP COMPLETE (DCCH)	RRC
10	<--		CLOSE UE TEST LOOP (DCCH)	TC
11	-->		CLOSE UE TEST LOOP COMPLETE	TC (confirms that loopback entities for the radio bearer(s) have been created and loop back is activated)
12	<--		OPEN UE TEST LOOP	TC
13	-->		OPEN UE TEST LOOP COMPLETE	TC
14	<--		RRC CONNECTION RELEASE	RRC
15	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.3.2.4 Specific message contents

[T.B.D.]

7.3.3 Test procedure for Handover

FFS

7.3.4 Test procedure for Measurement Performance Requirement

FFS

8. Test USIM Parameters

8.1 Introduction

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

8.1.1 Definitions

"Test USIM card":

A USIM card supporting the test algorithm for authentication, programmed with the parameters defined in this ~~section~~clause. 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~~clause.

8.1.2 Definition of the test algorithm for authentication

In order to be able to easily test the UMTS authentication and key agreement procedure as specified in TS 33.102 along the whole system, the availability of a test algorithm for generation of authentication vector based on quintets is needed (in GSM triplets was used).

The test algorithm defined in the present clause shall be implemented in test USIM cards as well in test USIM simulators.

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** (in which at least one bit is not zero, see 8.2), having the same bit length (128 bits) as **RAND**.

The result **XDOUT** of this is:

XDOUT[bits 0,1, . . .126,127] = **Ki**[bits 0,1, . . .126,127] XOR **RAND**[bits 0,1, . . .126,127]

Step 2:

XRES, **CK, IK** and **AK** are extracted from **XDOUT** this way:

XRES[bits 0,1, . . .n-1,n] = **XDOUT**[bits 0,1, . . .n-1,n] (with 30 < n < 128)

CK[bits 0,1, . . .126,127] = **XDOUT**[bits 8,9, . . .126,127,0,1, . . .6,7]

IK[bits 0,1, . . . 126,127] = **XDOUT**[bits 16,17, . . .126,127,0,1, . . .14,15]

AK[bits 0,1, . . . 62,63] = **XDOUT**[bits 24,25, . . .86,87]

Step 3:

Concatenate **SQN** with **AMF** to obtain **CDOUT** like this:

CDOUT[bits 0,1,. . .62,63] = **SQN**[bits 0,1,. . .46,47] || **AMF**[bits 0,1,. . .14,15]

Step 4:

MAC and **MACS** are calculated from **XDOUT** and **CDOUT** this way:

MAC[bits 0,1, . . .62, 63] = **MACS**[bits 0,1, . . .62, 63] = **XDOUT**[bits 0,1. . .62,63] XOR **CDOUT**[bits 0,1,. . .62,63]

~~6.10.1.2 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~~

~~RES1 = RAND XOR 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.~~

8.2 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~~clause<TBD>).

8.3 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 ~~section~~clauses 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 ~~section~~clauses.

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

File identification		EF Contents	Description	Value <all contents are TBD>
MF	2F 00	EF_{DIR}		
MF	2F E2	EF_{ICCID}	ICC Identification	test house option
MF	2F 05	EF_{PL}	Preferred languages	'FF...FF'
MF	2F 06	EF_{ARR}	Access rule reference	test house option
MF/USIM	6F 05	EF_{LI}	Language indication	'FF...FF'
MF/USIM	6F 07	EF_{IMSI}	IMSI	test house option
MF/USIM	6F 08	EF_{Keys}	Ciphering and Integrity Keys	'0FFF...FF'
MF/USIM	6F 09	EF_{KeysPs}	Ciphering and Integrity Keys for Packet Switched domain	'0FFF...FF'
MF/USIM	6F 30	$EF_{UPLMNsel}$	User PLMN selector	'FF...FF'
MF/USIM	6F 31	EF_{HPLMN}	HPLMN search period	'FF'00'
MF/USIM	6F 37	EF_{ACMmax}	ACM maximum value	'000000' (see note 1)
MF/USIM	6F 38	EF_{UST}	USIM service table	test house option
MF/USIM	6F 39	EF_{ACM}	Accumulated call meter	'000000'
MF/USIM	6F 3E	EF_{GID1}	Group Identifier Level 1	test house option
MF/USIM	6F 3F	EF_{GID2}	Group Identifier Level 2	test house option
MF/USIM	3F 46	EF_{SPN}	Service Provider Name	test house option
MF/USIM	6F 41	EF_{PUCT}	Price per unit and currency table	'FFFFFF0000'
MF/USIM	6F 45	EF_{CBMI}	Cell broadcast message identifier selection	'FF...FF'
MF/USIM	6F 78	EF_{ACC}	Access control class	test house option
MF/USIM	6F 7B	EF_{FPLMN}	Forbidden PLMNs	'FF...FF'
MF/USIM	6F 7E	EF_{LOCI}	Location information	'FFFFFFFF xxFxxx 42F618 0000 FFFE FF 01'
MF/USIM	6F AD	EF_{AD}	Administrative data	test house option
MF/USIM	6F 48	EF_{CBMID}	Cell Broadcast Message Identifier for Data Download	'FF...FF'
MF/USIM	6F B7	EF_{ECC}	Emergency Call Codes	test house option
MF/USIM	6F 50	EF_{CBMIR}	Cell broadcast message identifier range selection	'FF...FF'
MF/USIM	6F 73	EF_{PSLOCI}	Packet Switched location information	'FFFFFFFF FFFFFF 42F618 xxFxxx 0000 FFFE FF 01'
MF/USIM	6F 3B	EF_{FDN}	Fixed dialling numbers	'FF...FF'
MF/USIM	6F 3C	EF_{SMS}	Short messages	'00FF...FF'
MF/USIM	6F 40	EF_{MSISDN}	MSISDN storage	'FF...FF'
MF/USIM	6F 42	EF_{SMSP}	Short message service parameters	'FF...FF'
MF/USIM	6F 43	EF_{SMSS}	SMS status	'FF...FF'
MF/USIM	6F 49	EF_{SDN}	Service Dialling Numbers	'FF...FF'
MF/USIM	6F 4B	EF_{EXT2}	Extension 2	'00FF...FF'
MF/USIM	6F 4C	EF_{EXT3}	Extension 3	'00FF...FF'
MF/USIM	6F 47	EF_{SMSR}	Short message status reports	'00FF…FF'
MF/USIM	6F 80	EF_{ICI}	Incoming Call Information	'FF…FF 000000 00 01FFFF'
MF/USIM	6F 81	EF_{OCI}	Outgoing Call Information	'FF…FF 000000 01FFFF'
MF/USIM	6F 82	EF_{ICT}	Incoming Call Timer	'000000'
MF/USIM	6F 83	EF_{OCT}	Outgoing Call Timer	'000000'
MF/USIM	6F 4E	EF_{EXT5}	Extension5	'00FF...FF'
MF/USIM	6F 4F	EF_{CCP2}	Capability configuration parameters2	'FF...FF'
MF/USIM	6F B5	EF_{eMLPP}	enhanced Multi Level Precedence and Pre-emption	test house option
MF/USIM	6F B6	EF_{AAeM}	Automatic Answer for eMLPP Service	'00'
~~MF/USIM~~		~~$EF_{UIDNADR}$~~	~~User identity Decryption node adress~~	
~~MF/USIM~~		~~EF_{TEMSI}~~	~~Temporary encrypted user identity~~	~~00~~
MF/USIM	6F C2	EF_{GMSI}	Group Identity	'FFFFFFFF'
MF/USIM	6F C3	$EF_{Hiddenkey}$	Keys for hiddenphone book entries	'FF...FF'
MF/USIM	6F 20	EF_{Kc}	Ciphering key Kc	'FF...FF07'
MF/USIM	6F 52	EF_{KcGPRS}	GPRS Ciphering key KcGPRS	'FF...FF07'
MF/USIM	6F 53	$EF_{LOCIGPRS}$	GPRS location information	'FFFFFFFF FFFFFF 42F618 xxFxxx 0000 FFFE FF 01' (see note2)
MF/USIM	6F 7F	$EF_{LOCIGSM}$	GSM Location information for 2G access	'FFFFFFFF 42F618 0000 FF 01'
MF/USIM	6F 74	EF_{BCCH}	Broadcast control channels	'FF...FF'
MF/USIM	6F 4D	EF_{BDN}	Barred dialling numbers	'FF...FF'
MF/USIM	6F 55	EF_{EXT4}	Extension 4	'FF...FF'
MF/USIM	6F 58	EF_{CMI}	Comparison method information	'FF...FF'

MF/USIM	6F 56	EF_{EST}	Enabled service table	test house option
MF/USIM	6F 57	EF_{ACL}	Access point name control list	'00FF...FF'
MF/USIM	6F 2C	EF_{DCK}	Depersonalization control keys	'FF...FF'
MF/USIM	6F 32	EF_{CNL}	Co-operative network list	'FF...FF'
MF/USIM	6F 5B	EF_{COUNT}	Hyperframe number	'00...00'
MF/USIM	6F 5C	$EF_{COUNTMAX}$	Maximum value for hyperframe number	Test house option
MF/USIM	6F 5D	$EF_{OPLMNsel}$	Operator PLMN selector	'FF...FF'
MF/USIM	6F 5E	$EF_{PHPLMNsel}$	Preferred HPLMN selector	'FF...FF'
MF/USIM	6F 06	EF_{ARR}	Access rule reference	
MF/USIM/DF-SoLSA	5F ??	EF_{SAI}	SoLSA Access Indicator (release 2000)	'00FF...FF'
MF/USIM/DF-SoLSA	5F ??	EF_{SLL}	SoLSA LSAList (release 2000)	'FF...FF'
MF/USIM/DF-SoLSA	5F ??		LSA Descriptor files (release 2000)	
MF/USIM/DF-DF-PHONEBOOK	4F 30	EF_{PBR}	Phone Book Reference	Test house option
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{IAP}	Index Administration phone book	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{ADN}	Abbreviated dialling numbers	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{EXT1}	Extension 1	'00FF...FF'~~??~~
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{PBC}	Phone book control	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{GRP}	Grouping file	'00...00'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{AAS}	Additional number Alpha string	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{GAS}	Grouping information Alpha String	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{ANR}	Additional Number	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{SNE}	Second Name Entry	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F 3D	EF_{CCP1}	Capability configuration parameters 1	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F 21	EF_{UID}	Unique Identifier	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F 22	EF_{PSC}	Phone book Synchronisation Counter	'00000000'
MF/USIM/DF-DF-PHONEBOOK	4F 23	EF_{CC}	Change Counter	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F 24	EF_{PUID}	Previous Unique Identifier	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EF_{EMAIL}	E-mail address	'FF...FF'
MF/TELECOM		EF_{ARR}	Access rule reference	
MF/TELECOM		EF_{ADN}	Abbreviated dialling numbers	

MF/TELECOM	4F XX	EF_{EXT1}	Extension 1	'00FF...FF'~~??~~
MF/TELECOM	4F 3D	EF_{CCP1}	Capability configuration parameters 1	'0101A0FF'
MF/TELECOM	6F 54	EF_{SUME}	SetUpMenue Elements	test house option
MF/TELECOM/DF-GRAPHICS	4F 20	EF_{IMG}	Image data	'00FF...FF'
MF/TELECOM/DF-GRAPHICS	4F XX		Image Instance Data Files	'FF...FF'
MF/TELECOM/PHONEBOOK	4F 3D	EF CCP	Capability Configuration Parameters	

~~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].~~

8.3.1 Contents of the EFs at the MF level

8.3.1.1 EF_{DIR}

8.3.1.2 EF_{ICCID} (ICC Identity)

The programming of this EF is a test house option.

8.3.1.3 EF_{PL} (Preferred Languages)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.1.4 EF_{ARR} (Access rule reference)

The programming of this EF is a test house option.

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

~~6.10.3.2.1 EF_{ARR} (Access rule reference)~~

8.3.2.1~~2~~ EF_{LI} (Language Indication)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.2~~3~~ 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".

8.3.2.34 EF_{Keys} (Ciphering and Integrity Keys)

The programming of this EF follows default parameter written in TS31.102 Annex E.

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

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.56 $EF_{UPLMNsel}$ (User PLMN selector)

File size: 102 5n 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)

Bytes 2n-2(n+1): 32 F4 43 (MCC, MNC)

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

8.3.2.6 EF_{HPLMN} (HPLMN search period)

File size: 1 byte

Default value (HEX): 00 (no HPLMN search attempts)

~~6.10.3.2.7 $EF_{OPLMNsel}$ (Operator PLMN selector)~~

~~6.10.3.2.8 $EF_{PHPLMNsel}$ (Prefered HPLMN selector)~~

~~6.10.3.2.9 EF_{HPLMN} (HPLMN search period)~~

~~File size: 1 byte~~

~~Default value (HEX): 00 (no HPLMN search attempts)~~

8.3.2.710 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".

8.3.2.811 EF_{UST} (USIM Service Table)

Services will be allocated and activated as follows:

Services		Allocated	Activated
Service n°1 :	Local Phone Book		
Service n°2 :	Fixed Dialling Numbers (FDN): FFS		
Service n°3 :	Extension 2		
Service n°4 :	Service Dialling Numbers (SDN)		
Service n°5 :	Extension3		
Service n°6 :	Barred Dialling Numbers (BDN): FFS		
Service n°7 :	Extension4		
Service n°8 :	Outgoing Call Information (OCI and OCT)		
Service n°9 :	Incoming Call Information (ICI and ICT)		
Service n°10:	Short Message Storage (SMS)		
Service n°11:	Short Message Status Reports (SMSR)		
Service n°12:	Short Message Service Parameters (SMSP)		
Service n°13:	Advice of Charge (AoC)		
Service n°14:	Capability Configuration Parameters (CCP)		
Service n°15:	Cell Broadcast Message Identifier		
Service n°16:	Cell Broadcast Message Identifier Ranges		
Service n°17:	Group Identifier Level 1		
Service n°18:	Group Identifier Level 2		
Service n°19:	Service Provider Name		
Service n°20:	PLMN selector		
Service n°21:	MSISDN		
Service n°22:	Image (IMG)		
Service n°23:	Not used (reserved for SoLSA) ~~(Support of Local Service Area)~~		
Service n°24:	Enhanced Multi-Level Precedence and Pre-emption Service		
Service n°25:	Automatic Answer for Emlpp		
Service n°26:	EUIC (Enhanced User Identity Confidentiality)		
Service n°27:	GSM ~~2G~~ Access		
Service n°28:	Data download via SMS-PP		
Service n°29:	Data download via SMS-CB		
Service n°30:	Call Control by USIM		
Service n°31:	MO-SMS Control by USIM		
Service n°32:	RUN AT COMMAND command		
Service n°33:	Packet Switched Domain		
Service n°34:	Enabled Services Table		
Service n°35:	APN Control List (ACL)		
Service n°36:	Depersonalisation Control Keys		
Service n°37:	Co-operative Network List		
Service n°38:	GSM security context		

~~6.10.3.2.12 EF_{DCK} (Depersonalisation control keys)~~

~~6.10.3.2.13 EF_{CNL} (Co-operative network list)~~

8.3.2.9~~14~~ 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”.

8.3.2.10~~15~~ EF_{GID1} (Group Identifier Level 1)

The programming of this EF is a test house option.

8.3.2.11~~16~~ EF_{GID2} (Group Identifier Level 2)

The programming of this EF is a test house option.

8.3.2.12~~17~~ EF_{SPN} (Service Provider Name)

The programming of this EF is a test house option.

8.3.2.13~~18~~ EF_{PUCT} (Price per Unit and Currency Table)

File size: —5 bytes

Default: —Byte 1-3: FF

—Byte 4-5: 00

8.3.2.14~~19~~ 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.

8.3.2.15~~20~~ 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.

8.3.2.16~~21~~ 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".

8.3.2.1722 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"~~RFU)

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~~clause~~27~~<TBD>. 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.

8.3.2.1823 EF_{AD} (Administrative Data)

File size: 3 bytes

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

Byte 2: 11111111

Byte 3: 11111111

8.3.2.19 Spare

8.3.2.2024 EF_{CBMID} (Cell Broadcast Message Identifier for Data Download)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.2125 EF_{ECC} (Emergency Call Codes)

The programming of this EF is a test house option.

8.3.2.2226 EF_{CBMIR} (Cell Broadcast Message Identifier Range selection)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.2327 EF_{PSLOCI} (Packet Switched location information)

File size: 14 Bytes

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

Bytes 5-7 (HEX): FF FF FF (P-TMSI signature value)

Bytes 8-13 (HEX): 42 F6 18 FF FE FF (RAI)

Byte 14 (BIN): 001 (Routing Area update status = "not updated")

Bytes 8-13: RAI-MCC = 246 (bytes 8-9) and RAI-MNC = 81 (byte 10) are frequently used in clause<TBD>. The LAC (bytes 11-12) is set to “FF FE” since this, in conjunction with byte 14 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. P-TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.2428 EF_{FDN} (Fixed Dialling Numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

~~6.10.3.2.29 EF_{BDN} (Barred dialling numbers)~~

~~6.10.3.2.30 EF_{EXT4} (Extension 4)~~

~~6.10.3.2.31 EF_{CMI} (Comparison method information)~~

~~6.10.3.2.32 EF_{EST} (Enabled service table)~~

~~6.10.3.2.33 EF_{ACL} (Access point name control list)~~

8.3.2.2534 EF_{SMS} (Short messages)

The programming of this EF follows default parameter written in TS31.102 Annex E.

~~Default: Records 1-5 Byte 1: 00~~

~~Byte 2: FF~~

~~Bytes 3-14: FF FF FF FF FF FF FF FF FF FF FF FF~~

~~Bytes 15-26: FF FF FF FF FF FF FF FF FF FF FF FF~~

~~Byte 27: FF~~

~~Byte 28: FF~~

~~Bytes 29-35: FF FF FF FF FF FF FF~~

~~Byte 36: FF~~

~~Bytes 37-176: All Bytes set to FF~~

8.3.2.2635 EF_{MSISDN} (MSISDN)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.2736 EF_{SMSP} (Short message service parameters)

The programming of this EF follows default parameter written in TS31.102 Annex E.

~~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.~~

8.3.2.2837 EF_{SMSS} (SMS status)

The programming of this EF follows default parameter written in TS31.102 Annex E.

~~File size: 2 bytes~~

~~Byte 1: 00~~

~~Byte 2 (BIN): 11111111~~

~~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.~~

8.3.2.2938 EF_{SDN} (Service Dialling Numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3039 EF_{EXT2} (Extension2)

The programming of this EF follows default parameter written in TS31.102 Annex E.~~Optional.~~

8.3.2.3140 EF_{EXT3} (Extension3)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3241 EF_{SMSR} (Short message status reports)–

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3342 EF_{ICI} (Incoming Call Information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3443 EF_{OCI} (Outgoing Call Information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3544 EF_{ICT} (Incoming Call Timer)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3645 EF_{OCT} (Outgoing Call Timer)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3746 EF_{EXT5} (Extension5)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3847 EF_{CCP2} (Capability Configuration Parameters 2)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.3948 EF_{eMLPP} (enhanced Multi Level Precedence and Pre-emption)

The programming of this EF is a test house option.

8.3.2.4049 EF_{AAeM} (Automatic Answer for eMLPP Service)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.41 EF_{GMSI} (Group identity)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4251 $EF_{Hiddenkey}$ (Key for hidden phone book entries)

The programming of this EF follows default parameter written in TS31.102 Annex E.

~~6.10.3.2.52 EF_{COUNT} (Hyperframe number)~~

~~6.10.3.2.53 $EF_{COUNTMAX}$ (Maximum value for hyperframe number)~~

8.3.2.4354 Files required for ~~2G~~GSM Access

8.3.2.4354.1 EF_{Kc} (GSM 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.

8.3.2.4354.2 EF_{KcGPRS} (GPRS Ciphering key KcGPRS)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4354.3 $EF_{LOCIGPRS}$ (GPRS location information)

File size: 14 Bytes

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

Bytes 5-7 (HEX): FF FF FF (P-TMSI signature value)

Bytes 8-13 (HEX): 42 F6 18 FF FE FF (RAI)

Byte 14 (BIN): 001 (Routing Area update status = "not updated")

Bytes 8-13: RAI-MCC = 246 (bytes 8-9) and RAI-MNC = 81 (byte 10) are frequently used in clause<TBD>. The LAC (bytes 11-12) is set to “FF FE” since this, in conjunction with byte 14 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. P-TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.4354.4 $EF_{LOCIGSM}$ (GSM Location Information ~~for 2G access~~)

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 (Reserved (was used in GSM phase 1))

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 clause<TBD>. 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.

8.3.2.4354.5 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.

8.3.2.4429 EF_{BDN} (Barred dialling numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4530 EF_{EXT4} (Extension 4)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4631 EF_{CMI} (Comparison method information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4732 EF_{EST} (Enabled service table)

The programming of this EF is a test house option.

8.3.2.4833 EF_{ACL} (Access point name control list)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4912 EF_{DCK} (Depersonalisation control keys)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.5013 EF_{CNL} (Co-operative network list)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.5152 EF_{COUNT} (Hyperframe number)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.5253 $EF_{COUNTMAX}$ (Maximum value for hyperframe number)

The programming of this EF is a test house option.

8.3.2.537 $EF_{OPLMNsel}$ (Operator PLMN selector)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.548 $EF_{PHPLMNsel}$ (Preferred HPLMN Access Technologyselector)

The programming of this EF follows default parameter written in TS34.10231.102 Annex E.

8.3.2.551 EF_{ARR} (Access rule reference)

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

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

8.3.3.1.1 EF_{SAI} (SoLSA Access Indicator)

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.1.2 EF_{SLL} (SoLSA LSA List)

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.1.3 LSA Descriptor files

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.2 Contents of files at the DF PHONEBOOK level

8.3.3.2.1 EF_{PBR} (Phone Book Reference file)

The programming of this EF is a test house option.

~~6.10.3.3.2.2 EF_{EMAIL} (E-mail address)~~

8.3.3.2.23 EF_{IAP} (Index Administration Phone book)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.34 EF_{ADN} (Abbreviated dialling numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.45 EF_{EXT1} (Extension1)

The programming of this EF follows default parameter written in TS31.102 Annex E.~~Optional.~~

8.3.3.2.56 EF_{PBC} (Phone Book Control)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.67 EF_{GRP} (Grouping file)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.78 EF_{AAS} (Additional number Alpha String)–

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.89 EF_{GAS} (Grouping information Alpha String)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.9~~10~~ EF_{ANR} (Additional Number)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.10~~11~~ EF_{SNE} (Second Name Entry)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.11~~12~~ EF_{CCP1} (Capability Configuration Parameters 1)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12~~13~~ Phone Book Synchronisation

8.3.3.2.12~~13~~.1 EF_{UID} (Unique Identifier)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12~~13~~.2 EF_{PSC} (Phone book Synchronisation Counter)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12~~13~~.3 EF_{CC} (Change Counter)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12~~13~~.4 EF_{PUID} (Previous Unique Identifier)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.13~~2~~ EF_{EMAIL} (E-mail address)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.4 Contents of DFs at the TELECOM level

~~6.10.3.4.1 EF_{ARR} (Access rule reference)~~

8.3.4.1~~2~~ 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~~clause <TBD><27.15.4.1.>

8.3.4.2~~3~~ EF_{EXT1} (Extension1)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.4.3~~4~~ EF_{CCP1} (Capability Configuration Parameters 1)

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”.>

8.3.4.45 EF_{SUME} (SetUpMenu Elements)

The programming of this EF is a test house option.

8.3.4.5 EF_{ARR} (Access rule reference)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.5 Contents of DFs at the TELECOM level

8.3.5.1 Contents of files at the $DF_{GRAPHICS}$ level

8.3.5.1.1 EF_{IMG} (Image)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.5.1.2 Image Instance Data Files

8.3.5.2 Contents of files at the $DF_{PHONEBOOK}$ under the $DF_{TELECOM}$

8.3.5.2.1 EF_{CCP} (Capability Configuration Parameters)

The programming of this EF follows default parameter written in TS31.102 Annex E.

9 Default Message Contents

This clause contains the default values of common messages, which unless indicated otherwise in specific clauses of TS34.123-1, shall be transmitted and checked by the system simulator.

Contents of DOWNLINK DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
CN domain identity	CS domain
NAS message	See Specific Message Content for each test case

Contents of INITIAL DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Service Descriptor	Not checked
Flow Identifier	Not checked
CN domain identity	Not checked
NAS message	Not checked
Meqasured results on RACH	Not checked

Contents of PAGING TYPE1 message: TM (Speech in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	Terminating Speech Call
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	Terminating CS DATA Call
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (Packet in PS)

Information Element	Value/remark
Message Type Paging record - Paging cause - CN domain identity - CHOICE UE identity - IMSI BCCH modification info	 Terminating PS DATA Call PS domain Set to the same octed string as in the IMSI stored in the USIM card Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2

RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set

- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor âc	
- Gain factor âd	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)

- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to clause 6.10 Parameter Set
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	4 bits
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	

- Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor âc - Gain factor âd - Power offset Pp-m	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP COMPLETE message: AM

Message Type	
Hyper frame number	Not checked
Other information element	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1

- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	

- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor âc	
- Gain factor âd	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)

- Spreading factor	Reference to clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	

- TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor âc - Gain factor âd - FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE COMPLETE message: AM

Message Type Other information element	 Not checked

Contents of RRC CONNECTION REQUEST message: TM

Information Element	Value/remark
Message Type	
Initial UE identity	To be checked against requirement if specified
Initial UE capability	Reference to clause 6.10 Parameter Set
Establishment cause	To be checked against requirement if specified
Protocol error indicator	FALSE
Measured results on RACH	Not checked

Contents of RRC CONNECTION RELEASE message: UM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
Number of RRC Message Transmissions	2 (for CELL_DCH state). Not Present for UE in other connected mode states.
Release cause	Normal

Contents of RRC CONNECTION RELEASE COMPLETE message: AM or UM

Information Element	Semantics description
Message Type	
Integrity check info	Not checked.

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH-)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2

Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor âc	
- Gain factor âd	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor âc	0
- Gain factor âd	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set

- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH spreading factor	Not Present(1) SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	

- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor âc	
- Gain factor âd	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION SETUP COMPLETE message: AM

Information Element	Value/remark
Message Type	
Hyper Frame Number	Not checked
UE radio access capability	Reference to clause 6.10 Parameter Set
UE system specific capability	Not checked

Contents of SECURITY MODE COMMAND message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present.
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1.
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info	
- Radio bearer activation time	
- RB identity	2
- RLC sequence number	Set to the SN of the last frame sent by RB2
- Radio bearer activation time	
- RB identity	3
- RLC sequence number	Set to the SN of the last frame sent by RB2
Integrity protection mode info	Not Present
CN domain identity	CS domain

Contents of SECURITY MODE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Hyper frame number	Should be not present.
Uplink integrity protection activation info	Not checked.
Radio bearer uplink ciphering activation time info	
- Radio bearer activation time	
- RB identity	2
- RLC sequence number	Checked to see if it's a valid SD from RLC entity associated with RB2
- Radio bearer activation time	
- RB identity	3
- RLC sequence number	Checked to see if it's a valid SD from RLC entity associated with RB3

Contents of SIGNALLING CONNECTION RELEASE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Signalling Flow related information list	
- Flow Identifier requirement	Set to "Flow Identifier" field in the INITIAL DIRECT TRANSFER message

Contents of UPLINK DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Flow Identifier	To be checked against requirement if specified
NAS message	Set according to that indicated in specific message content clause
Measured results on RACH	Not checked

Document History

Document history		
V0.0.1	December 1999	Initial Proforma generated with Table of contents
V0.0.2	2000-01	First draft circulated for comment on prior to T1/SIG and T1/RF meeting in Morgans Hill, USA on 24th –26th January 2000
V.0.0.3	2000-02-24	Submitted for T1 approval for version 1.0.0 in TSG T1 WG1#6 meeting in Munich, Germany on 24-25 February 2000.
V1.0.0	2000-03-13	Presented to TSG T#7 for information
V1.0.1	2000-03-23	Cosmetic beauty treatment by Secretariat.
V1.0.2	2000-05-25	- Add new subclause 5.5 for Timers Tolerances - Power levels added in subclause 5.4.1 - Frequency bands as agreed in Yokohama - Include ISG Document as clause 6.10, with editorial changes to fit 34.108 layout - Include recent version of 6.11 (Default Test USIM Parameters) as Clause 8 - Clause 7 updated with NTT DoCoMo'sproposal of Yokohama - Add clause 9 for default message content
V1.0.3	2000-06-07	Due to ceratin problems with document Corruption (V1.0.2) started again from V1.0.1; So: Added 6.10 (ref Radio Acess Bearers) from 3G formatted Document (NTT DoCoMo T1s000044 from Yokohama) Moved sub-clause 6.11 (Test USIM parameters) to clause 8. Replaced clause 8 with latest NTT DoCoMo update Added clause 8.1.2 (testing authentication algorithm) latest version from Ericsson Removed AICH from power levels (not needed in RF testing), also added table for TDD test frequencies and added editor's note to support frequency range in other regions (discussion with T1/RF group 6/6/2000) Test frequencies: leave an offset 2.6 MHz to avoid interference with adjacent bands (disscussion after discussion with T1/RF group 6/6/2000) Added clause 9 from latest MCI's contribution ' Default Message content'. Contents of sub-clauses 6.3, 6.4 and 6.5 were <FFS> but it seems their content can be derived from the default message content sub-clause. Hence replaced <FFS> by a explanatory sentence. Replaced all occurences of 'Clause', 'Sub-clause' by 'Clause' and 'Sub-clause' respectively Removed automatic numbering of clauses and use manual numbering
v2.0.0	2000-06-21	Presented at T#8 for approval

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