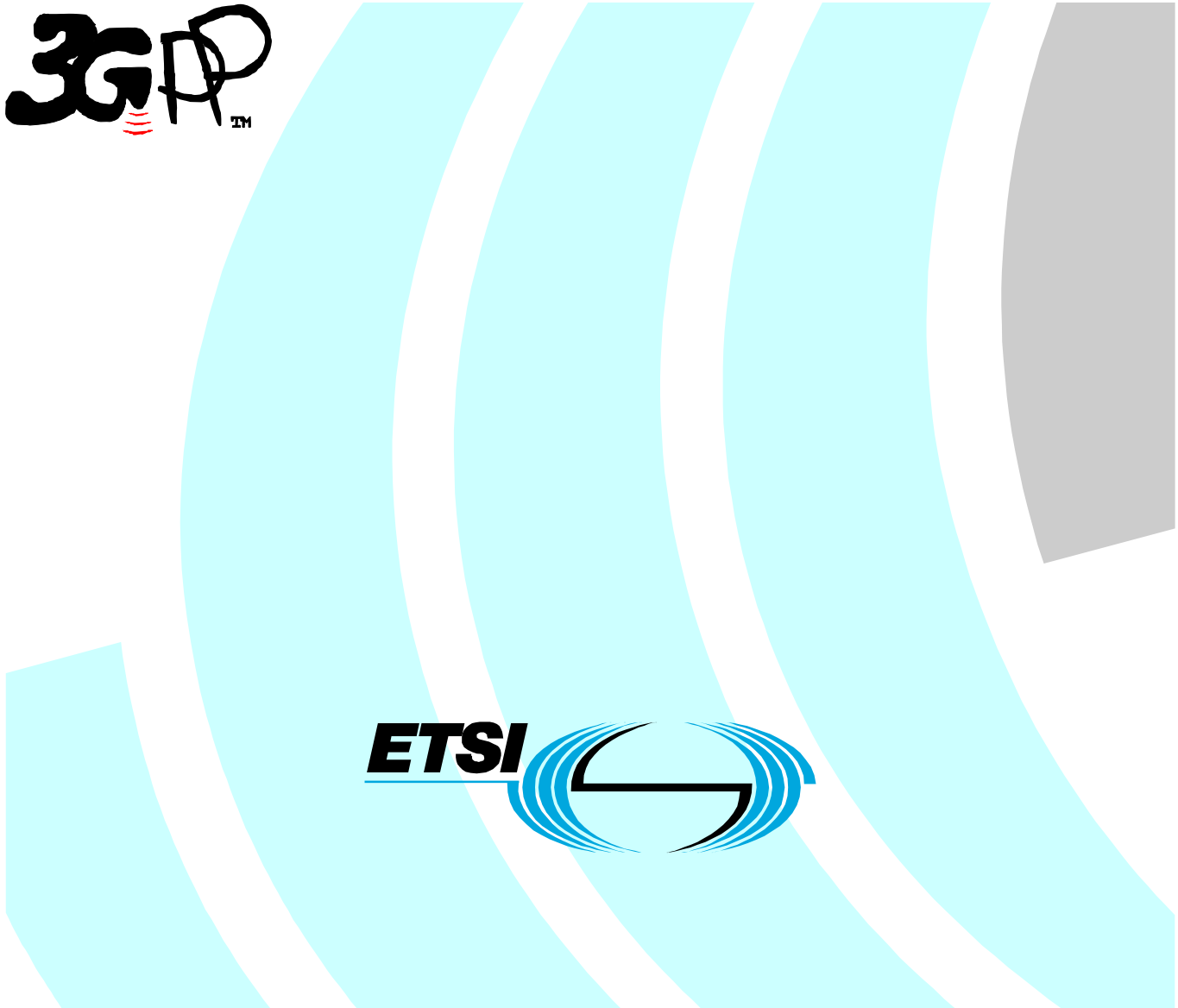
ETSI TR 134 943 V5.0.0 (2005-10)

Technical Report

**Universal Mobile Telecommunications System (UMTS);
Analysis of difference between FDD and 1.28 Mcps TDD and corresponding effect on terminal conformance test in radio access stratum protocol aspects
(3GPP TR 34.943 version 5.0.0 Release 5)**



Reference
DTR/TSGR-0534943v500

Keywords
UMTS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Report (TR) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp .

Contents

Foreword

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

The contents of the present document are subject to continuing work within the TSG RAN WG5 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 present document analyzes the difference of Uu/Iub interface between 1.28 Mcps TDD and FDD, as well as its effect on UE conformance testing for 3rd Generation Terminals.

The present document can be helpful and valuable in such aspects as follows:

It provides a brief difference analysis of core specifications in Uu/lub interface and a clear difference description about the test specifications, such as 34.123-1, 34.123-2, 34.123-3 and 34.108, between 1.28 Mcps TDD and FDD. It gives an efficient index so that the users can quickly search the differences between 1.28Mcps TDD and FDD in the test specifications.

The present document is especially helpful in 1.28 Mcps TDD TTCN ATSs development and SS (System Simulator) development. Since 1.28Mcps TDD and FDD share most of contents in layers beyond physical layer, the difference analysis will be much useful to take reuse of FDD available resource both in software and hardware as mostly as possible. Hence manpower, time and cost will be obviously saved in the development.

1 Scope

The present document analyzes the differences of Uu/Iub interface between 1.28Mcps TDD and FDD, and the effect on UE conformance testing for 3rd Generation Terminals.

The actual test case descriptions will be contained in other documents.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[2] 3GPP TS 25.212: "Multiplexing and channel coding (FDD)".

[3] 3GPP TS 25.213: "Spreading and modulation (FDD)".

[4] 3GPP TS 25.214: "Physical layer procedures (FDD)".

[5] 3GPP TS 25.215: "Physical layer measurements (FDD)".

[6] 3GPP TS 25.221: "Physical channels and mapping of transport channels onto physical channels (TDD)".

[7] 3GPP TS 25.222: "Multiplexing and channel coding (TDD)".

[8] 3GPP TS 25.223: "Spreading and modulation (TDD)".

[9] 3GPP TS 25.224: "Physical layer procedures (TDD)".

[10] 3GPP TS 25.225: "Physical layer measurements (TDD)".

[11] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification, Core network protocols; Stage 3".

[12] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".

[13] 3GPP TS 25.322: "Radio Link Control (RLC) protocol specification".

[14] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[15] 3GPP TS 25.433: "UTRAN Iub interface NBAP signaling".

[16] 3GPP TS 25.435: "UTRAN Iub interface user plane protocols for CCH data streams".

[17] 3GPP TS 25.427: "UTRAN Iur and Iub interface user plane protocols for DCH data streams".

[18] 3GPP TS 34.108: "Common test environments for User Equipment (UE) conformance testing".

[19] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[20] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) specification".

[21] 3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATSs)".

3 Abbreviations

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

TDD	Time Division Duplex
FDD	Frequency Division Duplex
TDMA	Time Division Multiple Access
DCA	Dynamic Channel Allocation
BCCH	Broadcast Control CHannel
CC	Convolutional Coding
CCCH	Common Control CHannel
CCTrCH	Coded Composite Transport CHannel
DCCH	Dedicated Control Channel
DL	DownLink
DPCH	Dedicated Physical CHannel
DTCH	Dedicated Traffic CHannel
NAS	Non-Access Stratum
MAC	Medium Access Control
RLC	Radio Link Control
PDCP	Packet Data Control Protocol
BMC	Broadcast/Multicast Control
RAB	Radio Access Bearer
RB	Radio Bearer
RRC	Radio Resource Control
P-CCPCH	Primary Common Control Physical CHannel
S-CCPCH	Secondary Common Control Physical Channel
PRACH	Physical Random Access CHannel
CPICH	Common Pilot Channel
SCH	Synchronization Channel
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
PICH	Paging Indicator CHannel
CPCH	Common Packet Channel
CSICH	CPCH Status Indicator Channel
TSTD	Time Switched Transmit Diversity
SCTD	Space Code Transmit Diversity
DwPCH	Downlink Pilot Channel
DwPTS	Downlink Pilot Time Slot
FACH	Forward Access Channel
FPACH	Fast Physical Access CHannel
SRB	Signalling Radio Bearer
SS	System Simulator
TC	Turbo Coding
UL	UpLink
TTI	Transmission Time Interval

4 Difference Analysis on Uu and Iub Interface

4.1 General Description on Uu and Iub Interface

This chapter aims to describe the differences between 1.28 Mcps TDD and FDD from the view of Uu and Iub interface. These differences are shown by, 1) analysing the differences in aspects of physical channel characteristic, physical

procedure and physical layer measurement in L1; 2) comparing the differences in L2 and L3 on Uu interface; 3) analysing the differences in aspect of Iub interface.

4.2 Differences in L1 on Uu interface

4.2.1 General description

As the fundamental factors which lead to the differences of other layers, the differences in L1 between 1.28 Mcps TDD and FDD is analysed in aspect of physical radio transmission technologies, such as radio frame design, modulation/demodulation etc.

4.2.1.1 In 1.28Mcps TDD

1) Specific signal format

Physical channel signal format concerned with radio frame, sub-frame and timeslot is presented in figure 4.2.1-1.

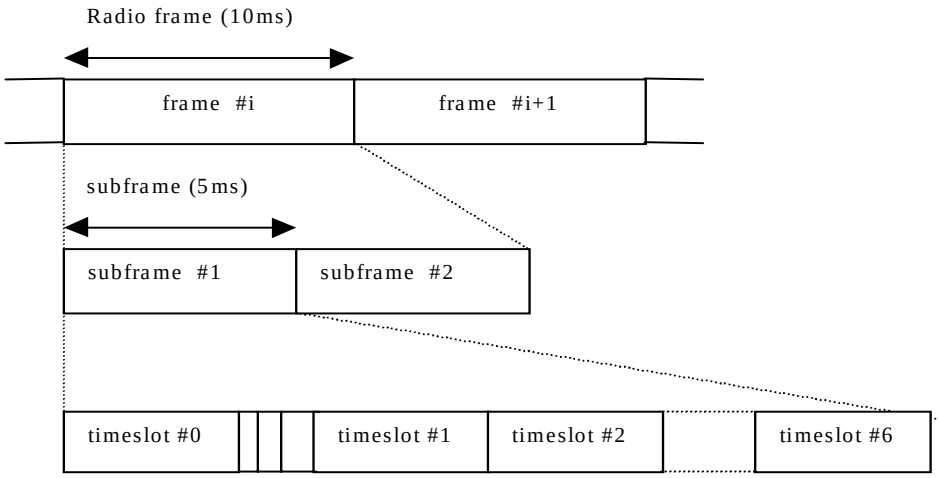


Figure 4.2.1-1: Physical channel signal format for 1.28Mcps TDD option

2) Specific data transmission process

In TDD, a physical channel is a burst, which is transmitted in a particular timeslot within allocated radio frames. A burst is the combination of a data part, a midamble and a guard period. The duration of a burst is one timeslot. Several bursts can be transmitted at the same time from one transmitter. The data part uses different OVSF channelization codes, but the same scrambling code. The midamble part has to use the same basic midamble code, but can use different midambles. The data part of the burst is spread with a combination of channelization code and scrambling code. The channelization code is a OVSF code, that can have a spreading factor of 1, 2, 4, 8, or 16. The scrambling code and the basic midamble code are broadcast and may be constant within a cell.

3) Specific guard symbols needed

Being used as a TDMA component to separate different user signals in time domain, each timeslot in all physical channels needs guard symbols.

4.2.1.2 In FDD

Physical channels in FDD are defined by specific frequency, scrambling code, channelization code, time start and stop (giving a duration) and, on the uplink, relative phase (0 or $\pi/2$). Scrambling codes and channelization codes are specified in [3] . Time durations are defined by start and stop instants, measured in integer multiples of chips.

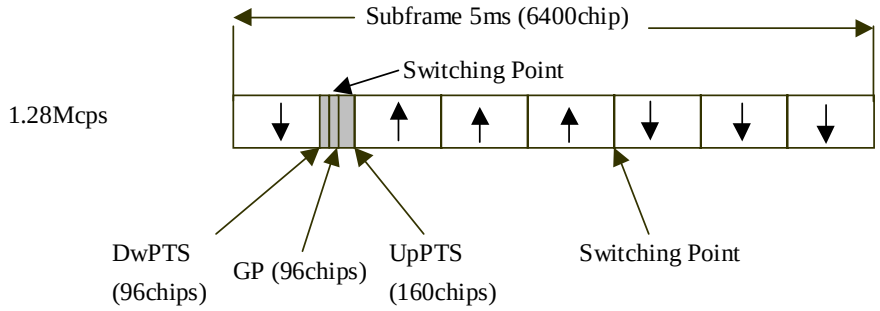
4.2.2 Specific frame structure

4.2.2.1 In 1.28Mcps TDD

1.28Mcps TDD frame has duration of 10 ms and is divided into 2 sub-frames of 5ms. The frame structure for each sub-frame in the 10ms frame length is same. The total number of traffic timeslots for uplink and downlink is 7, and the length for each traffic timeslot is 864 chips duration as shown in figure 4.2.2-1.

Timeslots for the uplink and for the downlink are separated by switching points. In each sub-frame of 5ms for 1.28Mcps TDD option, there are two switching points (uplink to downlink and vice versa).

1.28Mcps TDD option can operate on both symmetric and asymmetric mode by properly configuring the number of downlink and uplink timeslots. In any configuration at least one timeslot (timeslot#0) has to be allocated for the downlink and at least one timeslot has to be allocated for the uplink (timeslot#1).



DwPCH: downlink pilot timeslot, 96 chips duration;

UpPCH: uplink pilot timeslot, 160 chips duration;

GP: main guard period for TDD operation, 96 chips duration.

Figure 4.2.2-1: Structure of the sub-frame for 1.28Mcps TDD option

Examples for symmetric and asymmetric UL/DL allocations are given in figure 4.2.2-2.

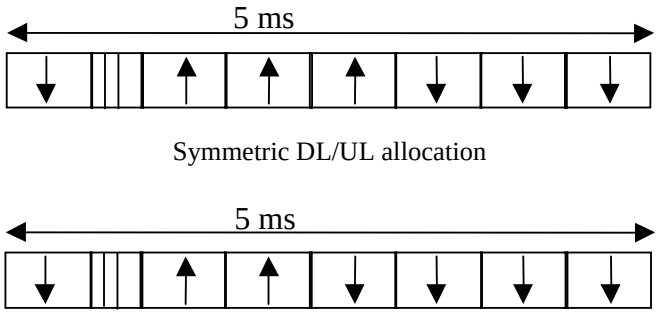


Figure 4.2.2-2: 1.28Mcps TDD sub-frame structure examples

4.2.2.2 In FDD

FDD frame has duration of 10 ms, including 15 timeslots. Each timeslot has 2560 chips duration. All the timeslots belong to the same direction, uplink or downlink. Uplink and downlink DPCH structures are shown as an example in figure 4.2.2-3 and figure 4.2.2-4 respectively.

There are two types of uplink dedicated physical channels, the uplink Dedicated Physical Data Channel (uplink DPDCH) and the uplink Dedicated Physical Control Channel (uplink DPCCH). The DPDCH and the DPCCH are I/Q code multiplexed within each radio frame.

There is only one type of downlink dedicated physical channel, the Downlink Dedicated Physical Channel (downlink DPCH). The downlink DPCH can be seen as a time multiplex of a downlink DPDCH and a downlink DPCCH.

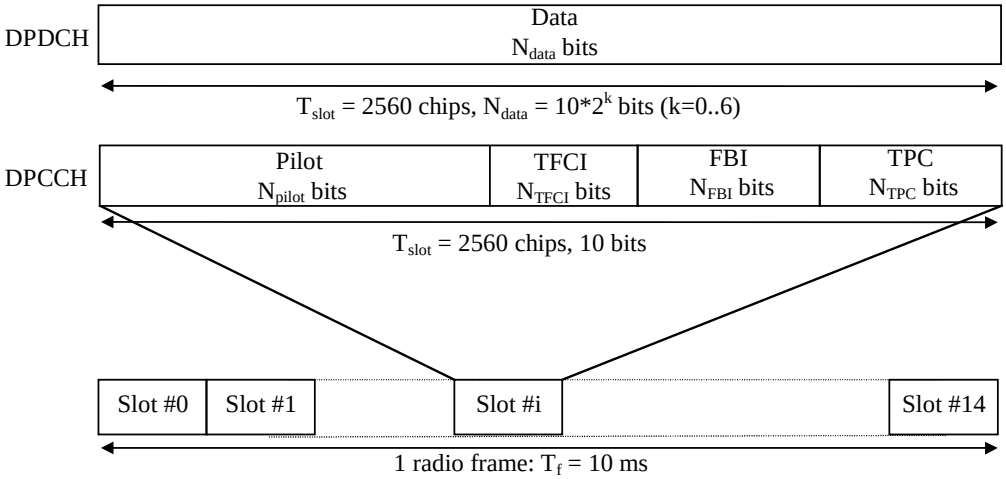


Figure 4.2.2-3: FDD frame structures for uplink DPDCH/DPCCH

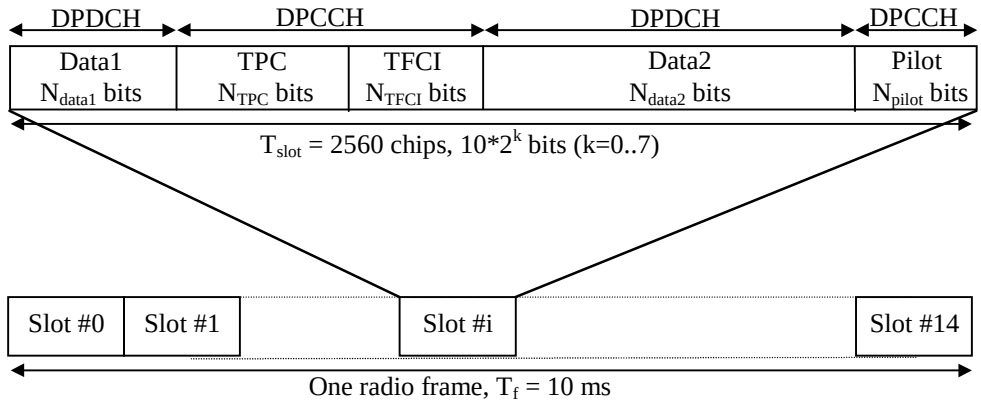


Figure 4.2.2-4: FDD frame structures for downlink DPCH

4.2.3 Different modulation

In the view of modulation, the chip rate for 1.28Mcps TDD is 1.28 Mcps, whereas the chip rate for FDD is 3.84 Mcps. QPSK is used both in 1.28 Mcps TDD and FDD. For uplink dedicated physical channel in FDD, data symbols on I- and Q-branches are independently multiplied with an OVSF code. 8PSK modulation is only used for 2Mbps service in 1.28Mcps TDD.

4.2.3.1 In 1.28Mcps TDD

1. Data modulation

   1) QPSK modulation

In this case, the data symbols $\underline{d}_n^{(k,i)}$ are generated from two consecutive data bits from the output of the physical channel mapping procedure,

$$b_{l,n}^{(k,i)} \in \{0,1\}, \quad l = 1,2; k = 1,...,K_{Code}; n = 1,...,N_k; i = 1,2 \qquad (2)$$

Using the following mapping to complex symbols:

Table 4.2.3-1: Mapping between bit pattern and complex symbol in QPSK modulation

consecutive binary bit pattern $b_{1,n}^{(k,i)}$ $b_{2n}^{(k,i)}$	complex symbol $\underline{d}_n^{(k,i)}$
00	+j
01	+1
10	-1
11	-j

The mapping corresponds to a QPSK modulation of the interleaved and encoded data bits $b_{l,n}^{(k,i)}$ of equation 2.

2) 8PSK modulation

In this case, 3 consecutive binary bits are represented by one complex valued data symbol. Each user burst has two data carrying parts, termed data blocks:

$$\underline{\mathbf{d}}^{(k,i)} = \left(\underline{d}_1^{(k,i)}, \underline{d}_2^{(k,i)}, ..., \underline{d}_{N_k}^{(k,i)}\right)^T, \quad i = 1,2; k = 1,..., K_{Code} \tag{1a}$$

N_k is the number of symbols per data field for the code k. This number is linked to the spreading factor Q_k.

Data block $\underline{\mathbf{d}}^{(k,1)}$ is transmitted before the midamble and data block $\underline{\mathbf{d}}^{(k,2)}$ after the midamble. Each of the N_k data symbols $\underline{d}_n^{(k,i)}$; i=1, 2; k=1,...,K_{Code}; n=1,...,N_k; of equation 1 has the symbol duration $T_s^{(k)}=Q_k.T_c$ as already given.

The data modulation is 8PSK, thus the data symbols $\underline{d}_n^{(k,i)}$ are generated from 3 consecutive data bits from the output of the physical channel mapping procedure in [8]:

$$b_{l,n}^{(k,i)} \in \{0,1\} \quad l = 1,2,3; k = 1,..., K_{Code}; n = 1,..., N_k; i = 1,2 \tag{2a}$$

Using the following mapping to complex symbols:

Table 4.2.3-2: Mapping between bit pattern and complex symbol in 8PSK modulation

Consecutive binary bit pattern $b_{1,n}^{(k,i)}$ $b_{2n}^{(k,i)}$ $b_{3n}^{(k,i)}$	complex symbol $\underline{d}_n^{(k,i)}$
000	cos(11pi/8)+ jsin(11pi/8)
001	cos(9pi/8)+ jsin(9pi/8)
010	cos(5pi/8)+ jsin(5pi/8)
011	cos(7pi/8)+ jsin(7pi/8)
100	cos(13pi/8)+ jsin(13pi/8)
101	cos(15pi/8)+ jsin(15pi/8)
110	cos(3pi/8)+ jsin(3pi/8)
111	cos(pi/8)+ jsin(pi/8)

The mapping corresponds to a 8PSK modulation of the interleaved and encoded data bits $b_{l,n}^{(k,i)}$ of the table above and $\underline{d}_n^{(k,i)}$ of equation 1a.

2. Spreading modulation

1) Combination of physical channels in uplink

First, the amplitude of all DPCHs is adjusted according to UL open loop power control and then separately weighted by a weight factor γ_i and combined using complex addition. After combination of Physical Channels the gain factor β_j is applied depending on the actual TFC.

2) Combination of physical channels in downlink

Each complex-valued spread channel is separately weighted by a weight factor. All downlink physical channels are then combined using complex addition.

4.2.3.2 In FDD

For the uplink spreading of DPCCH and DPDCHs in FDD, the binary DPCCH and DPDCHs to be spread are represented by real-valued sequences, i.e. the binary value "0" is mapped to the real value +1, while the binary value "1" is mapped to the real value –1. The DPCCH is spread to the chip rate by the channelization code c_c, while $DPDCH_n$ is spread to the chip rate by the channelization code $c_{d,n}$.

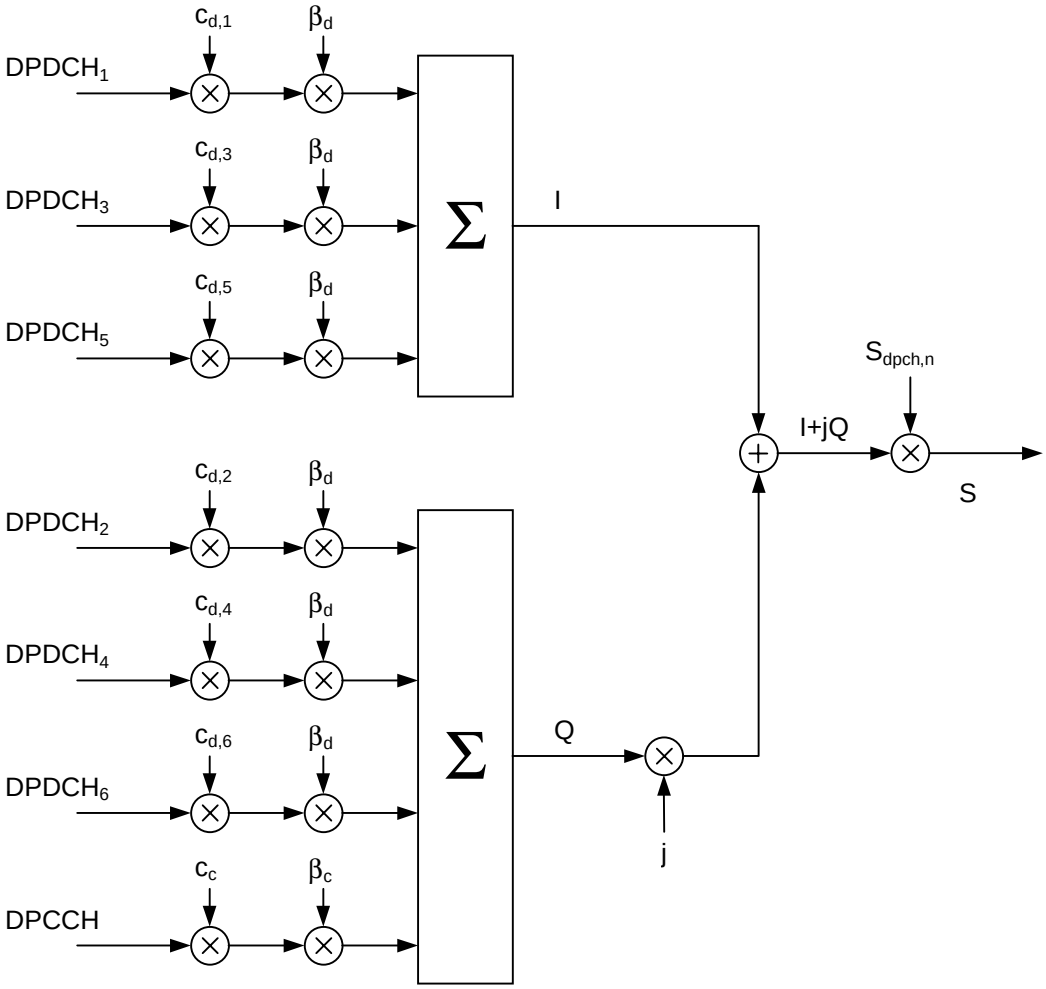


Figure 4.2.3-1: Spreading for uplink DPCCH and DPDCHs in FDD

4.2.4 Different channel coding

There are some differences in channel coding for BCH/PCH between 1.28Mcps TDD and FDD.

Table 4.2.4-1: Comparison between 1.28Mcps TDD and FDD channel coding

Type of TrCH	1.28Mcps TDD		FDD	
	Coding Scheme	Coding Rate	Coding Scheme	Coding Rate
BCH	Convolutional Coding	1/3	Convolutional Coding	1/2
PCH	Convolutional Coding	1/2 or 1/3	Convolutional Coding	1/2
Other TrCHs	Convolutional Coding (1/2 or 1/3) or Turbo Coding (1/3)			

4.2.5 Differences on Physical Channels

The main differences on Physical Channels between 1.28 Mcps TDD and FDD lie on two aspects: different physical channels and different usage of physical channels.

1) DwPCH, UpPCH and FPACH are used in 1.28Mcps TDD instead of SCH and AICH in FDD;

The physical channels DwPCH and UpPCH are used for downlink and uplink pilots. The physical channel FPACH is used to answer the UE and to request an adjustment of the timing and synchronization shift of the UE. These three channels are used for synchronization operation.

2) DPCH is used in 1.28Mcps TDD instead of DPDCH and DPCCH in FDD;

3) PUSCH is used in 1.28Mcps TDD only;

4) PCPCH and CSICH are used in FDD only.

The different usage for the same physical channels is shown as follows.

4.2.5.1 P-CCPCH

4.2.5.1.1 In 1.28Mcps TDD

The Primary CCPCH is a fixed rate downlink physical channel with a spreading factor SF = 16 and used to carry the BCH transport channel. There are two P-CCPCH channels, P-CCPCH1 and P-CCPCH2.

In 1.28Mcps TDD system, P-CCPCH has the following characteristics:

- transmitted with reference power;
- transmitted without beamforming;
- using midamble m(1) and m(2) exclusively in this timeslot.

Based on the above characteristic, P-CCPCH is used as beacon channel to perform measurement in a TDD cell. It is used as

- bearing BCH transport channel;
- one reference for UE to do cell selection and reselection;
- If no antenna diversity is applied to the P-CCPCH, all the reference power of any beacon channel is allocated to $m^{(1)}$.
- If SCTD antenna diversity is applied to the P-CCPCH, for any beacon channel each midamble of $m^{(1)}$ and $m^{(2)}$ is allocated half of the reference power. Midamble $m^{(1)}$ is used for the first antenna and $m^{(2)}$ is used for the diversity antenna. SCTD is applied to the P-CCPCH, for all other beacon channels identical spread data sequences are transmitted on both antennas.

4.2.5.1.2 In FDD

The Primary CCPCH is a fixed rate (30 kbps, SF=256) downlink physical channel used to carry the BCH transport channel.

- In case the diversity antenna is present in UTRAN and the P-CCPCH is to be transmitted using open loop transmit diversity, the data bits of the P-CCPCH are STTD encoded The last two data bits in even numbered slots are STTD encoded together with the first two data bits in the following slot, except for slot #14 where the two last data bits are not STTD encoded and instead transmitted with equal power from both the antennas. Higher layers signal whether STTD encoding is used for the P-CCPCH or not. In addition the presence/absence of STTD encoding on P-CCPCH is indicated by modulating the SCH. During power on and hand over between cells the UE can determine the presence of STTD encoding on the P-CCPCH, by either receiving the higher layer message, by demodulating the SCH channel, or by a combination of the above two schemes.
- P-CCPCH has a fixed predefined transport format combination.

4.2.5.2 S-CCPCH

S-CCPCH is used to carry FACH and PCH.

4.2.5.2.1 In 1.28Mcps TDD

It has the following characteristics:

- Fixed spreading with the spreading factor SF = 16 is used
- The training sequences, i.e. midambles, are used.

4.2.5.2.2 In FDD

It has the following characteristics:

- Unfixed spreading with a spreading factor of 256 to 4 is used
- In case the diversity antenna is present in UTRAN and the S-CCPCH is to be transmitted using open loop transmit diversity, the data symbols of the S-CCPCH are STTD encoded.

4.2.5.3 PRACH

The Physical Random Access Channel (PRACH) is used to carry the RACH.

4.2.5.3.1 In 1.28Mcps TDD

- Spreading factor of SF=16, SF=8 or SF=4 is used
- TFCI and TPC are not used.
- Timeslot format is only spreading factor dependent
- A fixed association between the training sequence and the channelization code exists.

4.2.5.3.2 In FDD

PRACH transmission is based on a Slotted ALOHA approach with fast acquisition indication. It consists of one or several preambles and a message length of 10 ms or 20 ms.

Each preamble is of length 4096 chips and consists of 256 repetitions of a signature of length 16 chips.

The message length is configured by higher layers. Each message is split into 15 slots. Each slot consists of two parts, a data part to which the RACH transport channel is mapped and a control part that carries Layer 1 control information. The data and control parts are transmitted in parallel.

The control part consists of 8 known pilot bits to support channel estimation for coherent detection and 2 TFCI bits. This corresponds to a spreading factor of 256 for the message control part.

A 10 ms message part consists of one message part radio frame, while a 20 ms message part consists of two consecutive 10 ms message part radio frames.

4.2.5.4 Common Pilot Channel (CPICH) (FDD only)

The CPICH is a fixed rate (30 kbps, SF=256) downlink physical channel that carries a pre-defined bit/symbol sequence.

In case of no transmit diversity; the symbol sequence of Antenna 1 in figure 4.2.5-1 is used.

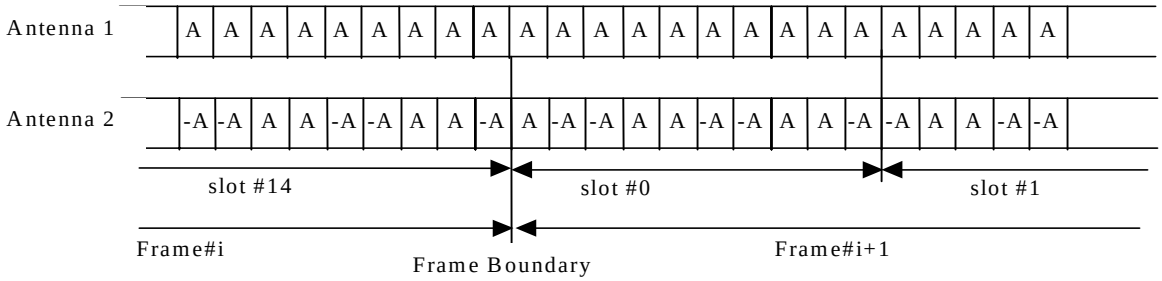


Figure 4.2.5-1: Modulation pattern for Common Pilot Channel (with A = 1+j)

In case transmit diversity (open or closed loop) is used on any downlink channel in the cell; the CPICH shall be transmitted from both antennas using the same channelization and scrambling code. In this case, the pre-defined symbol sequence of the CPICH is different for Antenna 1 and Antenna 2.

There are two types of CPICH: P-CPICH and S-CPICH.

P-CPICH has the following characteristics:

- The same channelization code is always used for the P-CPICH, see [4];
- The P-CPICH is scrambled by the primary scrambling code, see [4];
- There is only one P-CPICH per cell;
- The P-CPICH is broadcast over the entire cell.

P-CPICH is a phase reference for the following downlink channels: SCH, Primary CCPCH, AICH, PICH AP-AICH, CD/CA-ICH, CSICH, DL-DPCCH for CPCH and the S-CCPCH. By default, P-CPICH is also a phase reference for downlink DPCH and any associated PDSCH. The UE is informed by higher layer signalling if the P-CPICH is not a phase reference for a downlink DPCH and any associated PDSCH.P-CPICH is always a phase reference for a downlink physical channel using closed loop TX diversity.

S-CPICH has the following characteristics:

- An arbitrary channelization code of SF=256 is used for the S-CPICH, see [4];
- A S-CPICH is scrambled by either the primary or a secondary scrambling code, see [4];
- There may be zero, one, or several S-CPICH per cell;
- A S-CPICH may be transmitted over the entire cell or only over a part of the cell;

A S-CPICH may be a phase reference for a downlink DPCH. If this is the case, the UE is informed about this by higher-layer signalling.

The S-CPICH can be a phase reference for a downlink physical channel using open loop TX diversity, instead of the P-CPICH being a phase reference.

Note that it is possible that neither the P-CPICH nor any S-CPICH is a phase reference for a downlink DPCH.

4.2.5.5 Synchronization Channel (SCH) (FDD only)

SCH is a downlink signal used for cell search. SCH consists of two sub channels, the Primary and Secondary SCH. The 10 ms radio frames of the P- SCH are divided into 15 slots, each of length 2560 chips.

- P-SCH consists of a modulated code of length 256 chips, the Primary Synchronisation Code (PSC) denoted c_p transmitted once every slot. The PSC is the same for every cell in the system.
- S-SCH consists of repeatedly transmitting a length 15 sequence of modulated codes of length 256 chips, the Secondary Synchronisation Codes (SSC), transmitted in parallel with the Primary SCH. The SSC is denoted $c_s^{i,k}$ in figure 18, where i = 0, 1, …, 63 is the number of the scrambling code group, and k = 0, 1, …, 14 is the slot

number. Each SSC is chosen from a set of 16 different codes of length 256. This sequence on the Secondary SCH indicates which of the code groups the cell's downlink scrambling code belongs to.

- The primary and secondary synchronization codes are modulated by the symbol *a*, which indicates the presence/ absence of STTD encoding on the P-CCPCH and is given by a given table:

In case of the TSTD scheme in SCH, both PSC and SSC are transmitted on antenna 1 in even numbered slots, and both PSC and SSC are transmitted on antenna 2 in odd numbered slots.

4.2.5.6 Physical Downlink Shared Channel (PDSCH)

The Physical Downlink Shared Channel (PDSCH) is used to carry the Downlink Shared Channel (DSCH).

4.2.5.6.1 In 1.28Mcps TDD

- Spreading factor SF = 16 or SF = 1 is used.
- TFCI can be transmitted
- The training sequences can be used.
- To indicate to the UE that there is data to decode on the DSCH, three signalling methods are available:
  1) Using the TFCI field of the associated channel or PDSCH;
  2) Using on the DSCH user specific midamble derived from the set of midambles used for that cell;
  3) Using higher layer signalling.

4.2.5.6.2 In FDD

A PDSCH is allocated on a radio frame basis to a single UE. Within one radio frame, UTRAN may allocate different PDSCHs under the same PDSCH root channelization code to different UEs based on code multiplexing. Within the same radio frame, multiple parallel PDSCHs, with the same spreading factor, may be allocated to a single UE. This is a special case of multimode transmission. All the PDSCHs are operated with radio frame synchronisation.

- PDSCHs allocated to the same UE on different radio frames may have different spreading factors varying from 256 to 4.
- STTD encoding is used for open loop transmit diversity
- Closed loop transmit diversity is employed on the associated DPCH

4.2.5.7 Acquisition Indicator Channel (AICH) (FDD only)

The Acquisition Indicator channel (AICH) is a fixed rate (SF=256) physical channel used to carry Acquisition Indicators (AI). Acquisition Indicator AI_s corresponds to signature s on the PRACH.

AICH consists of a repeated sequence of 15 consecutive *access slots* (AS), each of length 5120 chips. Each access slot consists of two parts, an *Acquisition-Indicator* (AI) part consisting of 32 real-valued symbols a_0, …, a_{31} and a part of duration 1024 chips with no transmission that is not formally part of the AICH. The part of the slot with no transmission is reserved for possible use by CSICH or possible future use by other physical channels.

- The spreading factor (SF) used for channelization of the AICH is 256.
- The phase reference for the AICH is the Primary CPICH.

4.2.5.8 CPCH Access Preamble Acquisition Indicator Channel (AP-AICH) (FDD only)

AP-AICH is a fixed rate (SF=256) physical channel used to carry AP acquisition indicators (API) of CPCH. AP acquisition indicator API_s corresponds to AP signature *s* transmitted by UE.

4.2.5.9 CPCH Collision Detection/Channel Assignment Indicator Channel (CD/CA-ICH) (FDD only)

CD/CA-ICH is a fixed rate (SF=256) physical channel used to carry CD Indicator (CDI) only if the CA is not active, or CD Indicator/CA Indicator (CDI/CAI) at the same time if the CA is active. CD/CA-ICH and AP-AICH may use the same or different channelisation codes.

4.2.5.10 Paging Indicator Channel (PICH)

PICH is a physical channel used to carry the paging indicators.

4.2.5.10.1 In 1.28 Mcps TDD

PICH can be transmitted time multiplexed with a P/S-CCPCH and it is with the same antenna pattern configuration as the P-CCPCH. The power offset of PICH compared to the P-CCPCH is broadcast on BCH.

4.2.5.10.2 In FDD

PICH is a fixed rate (SF=256). The PICH is always associated with an S-CCPCH to which a PCH transport channel is mapped. One PICH radio frame of length 10 ms consists of 300 bits (b_0, b_1… b_{299}). Of these, 288 bits (b_0, b_1… b_{287}) are used to carry paging indicators. The remaining 12 bits are not formally part of the PICH and shall not be transmitted. The part of the frame with no transmission is reserved for possible future use.

4.2.5.11 CPCH Status Indicator Channel (CSICH) (FDD only)

CSICH is a fixed rate (SF=256) physical channel used to carry CPCH status information.

A CSICH is always associated with a physical channel used for transmission of CPCH AP-AICH using the same channelization and scrambling codes.

- CSICH frame consists of 15 consecutive access slots (AS) each of length 40 bits.
- Each access slot consists of two parts, a part of duration 4096 chips with no transmission that is not formally part of the CSICH, and a Status Indicator (SI) part consisting of 8 bits b_{8i},….b_{8i+7}, where i is the access slot number.
- The part of the slot with no transmission is reserved for use by AICH, AP-AICH or CD/CA-ICH.
- The modulation used by the CSICH is the same as for the PICH. The phase reference for the CSICH is the Primary CPICH.

4.2.5.12 Fast Physical Access Channel (FPACH) (1.28McpsTDD only)

FPACH is used by the Node B to carry, in a single burst, the acknowledgement of a detected signature with timing and power level adjustment indication to a UE.

FPACH makes use of one resource unit only at spreading factor 16, and its burst is composed by 44 symbols. The spreading code, training sequence and time slot position are configured by the network and signalled on the BCH.

The FPACH uses only spreading factor SF=16 .The set of admissible spreading codes for use on the FPACH are broadcast on the BCH (within the FPACH configuration parameters on the BCH).

The training sequences, i.e. midambles, of different users active in the same time slot are time shifted versions of a single periodic basic code. The basic midamble codes as described in the sub clause about midamble generation are used for FPACH.

4.2.5.13 Synchronization channels (DwPCH, UpPCH) (1.28Mcps TDD only)

There are two physical synchronisation channels —DwPTS and UpPTS.

The Frame Structure of DwPTS and UpPTS are shown in Figure 4.2.5-2 and Figure 4.2.5-3.

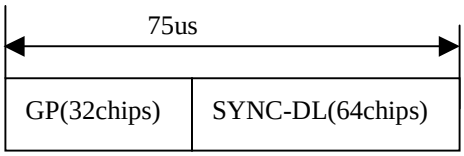


Figure 4.2.5-2: Structure for DwPTS

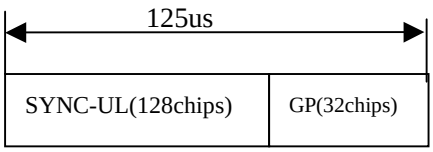


Figure 4.2.5-3: Structure for UpPTS

4.2.5.14 Physical Uplink Shared Channel (PUSCH) (1.28Mcps TDD only)

The PUSCH is an uplink physical channel shared by several UEs carrying dedicated control or traffic data.

- SF = 1, 2, 4, 8, 16 are used.
- TFCI, SS and TPC can be transmitted.
- The training sequences are used.
- The UE that shall transmit on the PUSCH is selected by higher layer signalling.

4.2.5.15 Dedicated Physical Channel(DPCH)

4.2.5.15.1 In 1.28 Mcps TDD

The DPCH is an up- or downlink physical channel that is used to carry user or control information between the UTRAN and a UE.

- SF =16 (DL) and from 16 down to 1 (UL)
- Downlink timeslot format depends on the spreading factor, midamble length and on the number of the TFCI code word bits
- The uplink timeslot format depends on the spreading factor, midamble length, guard period length and on the number of the TFCI code word bits
- Midamble is used as training sequence
- When DL beamforming is used, one individual midamble shall be given.

4.2.5.15.2 In FDD

Dedicated uplink physical channels are used to carry the DCH transport channel and control information generated at Layer 1. The Layer 1 control information consists of known pilot bits to support channel estimation for coherent detection, transmit power-control (TPC) commands, feedback information (FBI), and an optional transport-format combination indicator (TFCI). The transport-format combination indicator informs the receiver about the instantaneous transport format combination of the transport channels mapped to the simultaneously transmitted uplink DPDCH radio frame. There is one and only one uplink DPCCH on each radio link.

- Two types of uplink DPCH, uplink DPDCH and uplink DPCCH are used.
- The DPDCH and the DPCCH are I/Q code multiplexed within each radio frame

- Two types of uplink DPCCH; those that include TFCI (e.g. for several simultaneous services) and those that do not include TFCI (e.g. for fixed-rate services) are used. It is the UTRAN that determines if a TFCI should be transmitted and it is mandatory for all UEs to support the use of TFCI in the uplink.
- In compressed mode, DPCCH slot formats with TFCI fields are changed. There are two possible compressed slot formats for each normal slot format.
- When multi-code transmission is used, several parallel DPDCH are transmitted using different channelization codes, however, there is only one DPCCH per radio link.

Dedicated downlink physical channels

There is only one type of downlink down link DPCH.

Within one downlink DPCH, dedicated data generated at Layer 2 and above, i.e. the dedicated transport channel (DCH), is transmitted in time-multiplex with control information generated at Layer 1 (known pilot bits, TPC commands, and an optional TFCI). The downlink DPCH can thus be seen as a time multiplex of a downlink DPDCH and a downlink DPCCH. Details about downlink DPCH, see [6].

4.2.5.16 Physical Common Packet Channel (PCPCH) (FDD only)

The Physical Common Packet Channel (PCPCH) is used to carry the CPCH.

4.2.6 Differences on Transport Channels

[USCH is only used in 1.28Mcps TDD, while CPCH is only used in FDD.]

4.2.7 Different Mapping between TrCHs on PhyCHs

4.2.7.1 In 1.28Mcps TDD

Table 4.2.7-1: Mapping between transport channels and physical channels in 1.28Mcps TDD

Transport channels	Physical channels
DCH	Dedicated Physical Channel (DPCH)
BCH	Primary Common Control Physical Channels (P-CCPCH)
PCH	Secondary Common Control Physical Channels(S-CCPCH)
FACH	Secondary Common Control Physical Channels(S-CCPCH)
	Paging Indicator Channel (PICH)
RACH	Physical Random Access Channel (PRACH)
USCH	Physical Uplink Shared Channel (PUSCH)(*)
DSCH	Physical Downlink Shared Channel (PDSCH)
	Downlink Pilot Channel (DwPCH) (*)
	Uplink Pilot Channel (UpPCH) (*)
	Fast Physical Access Channel (FPACH) (*)

(*) Note: Used in TDD only

4.2.7.2 In FDD

Table 4.2.7-2: Mapping between transport channels and physical channels in FDD

Transport channels	Physical channels
DCH	Dedicated Physical Data Channel (DPDCH)
	Dedicated Physical Control Channel(DPCCH）
RACH	Physical Random Access Channel (PRACH)
CPCH	Physical Common Packet Channel (PCPCH)
	Common Pilot Channel (CPICH)(*)
BCH	Primary Common Control Physical Channel (P-CCPCH)
FACH	Secondary Common Control Physical Channel (S-CCPCH)
PCH	S-CCPCH
	Synchronisation Channel (SCH)
DSCH	Physical Downlink Shared Channel(PDSCH)
	Acquisition Indicator Channel(AICH)(*)
	Access Preamble Acquisition Indicator Channel AP-AICH
	Paging Indicator Channel (PICH)
	CPCH Status Indicator Channel (CSICH)(*)
	CPCH Collision Detection/Channel Assignment Indicator Channel (CD/CA-ICH)(*)

(*) Note: Used in FDD only

4.2.8 Different physical procedure

4.2.8.1 Different random access procedure

In 1.28Mcps TDD, uplink synchronization code SYNC_UL is transmitted on UpPCH for initial access. Open loop control and power ramping procedure is used in retransmission. Power and timing advance adjustments are feedback on FPACH, then access on RACH..

In FDD, preamble is used in the initial random access on RACH. Open loop power control is used for preamble transmission. Power ramping procedure is used when retransmission. Adjusting information is feedback on AICH, then access on RACH.

4.2.8.2 Transmitter power control procedure

The inner loop power control rate for 1.28Mcps TDD is 200 cycles/sec while for FDD is 1500 cycles/sec.

4.2.8.2.1 Uplink control

4.2.8.2.1.1 In 1.28Mcps TDD

UpPTS

Open loop power control is used for UpPTS.

The transmit power level by an UE on the UpPTS shall be calculated based on the following equation:

$$P_{UpPTS} = L_{P\text{-}CCPCH} + PRX_{UpPTS,des}$$

where:

P_{UpPTS}: transmit power level in dBm;

$L_{P\text{-}CCPCH}$: measured path loss in dB (P-CCPCH reference transmitted power level is broadcasted on BCH);

$PRX_{UpPTS,des}$: desired RX power level at cell's receiver in dBm, which is an average value and is broadcasted on BCH.

PRACH

In 1.28 Mcps TDD, the F-PACH is the response of a node B to the SYNC-UL burst of the UE. The response, a one-burst long message, besides the acknowledgement to the received SYNC-UL burst, shall bring the timing and power level indications for preparing the transmission of the RACH burst.

The transmit power level on the PRACH is calculated by the following equation:

$$P_{PRACH} = L_{P\text{-}CCPCH} + PRX_{PRACH,des}$$

Where:

P_{PRACH} is the UE transmit power level on the PRACH;

$PRX_{PRACH,des}$ is the desired receive power level on the PRACH, which is signalled by the higher layer signalling on the F-PACH.

4.2.8.2.1.2 In FDD

PRACH

In FDD, the message part of the uplink PRACH channel shall employ gain factors to control the control/data part relative power similar to the uplink dedicated physical channels. No inner loop power control is performed in this procedure.

DPCCH/DPDCH

The initial uplink DPCCH transmit power is set by higher layers. Subsequently the uplink transmit power control procedure simultaneously controls the power of a DPCCH and its corresponding DPDCHs (if present). The relative transmit power offset between DPCCH and DPDCHs is determined by the network.

The operation of the inner power control loop, which adjusts the power of the DPCCH and DPDCHs by the same amount, provides no changes in gain factors.

- Ordinary transmit power control (see [4] subclause5.1.2.2)
- Transmit power control in compressed mode (see[4] , subclause5.1.2.3)
- Transmit power control in the uplink DPCCH power control preamble (see[4] , subclause5.1.2.4)
- Setting of the uplink DPCCH/DPDCH power difference (see[4] , subclause5.1.2.5)

PCPCH

The protocol mainly related to the inner loop power control for the PCPCH in FDD.

- Power control in the message part (see [4], subclause5.1.3.2)
- Power control in the power control preamble (see [4], subclause5.1.3.3)

4.2.8.2.2 Downlink power Control

4.2.8.2.2.1 In 1.28Mcps TDD

Downlink power control is associated with the following channels:

1) P-CCPCH
2) S-CCPCH, PICH
3) DPCH, PDSCH

The relative transmit power of the Secondary CCPCH and the PICH compared to the P-CCPCH transmit power are set by higher layer signalling on the BCH.

4.2.8.2.2.2 In FDD

Downlink power control associated with the following channels:

1) DPCCH/DPDCH:
   - ordinary transmit power control;
   - power control in compressed mode;
   - site selection diversity transmit power control.
2) PDSCH;
3) DL-DPCCH for CPCH;
4) AICH;
5) PICH;
6) S-CCPCH.

4.2.8.3 Synchronization procedures

4.2.8.3.1 In 1.28Mcps TDD

Four procedures are included in cell search and cell synchronization:

- Step 1: Search for DwPCH;
- Step 2: Scrambling and basic midamble code identification;
- Step 3: Control multi-frame synchronization;
- Step 4: Read the BCH.

4.2.8.3.2 In FDD

Four procedures are included in cell search and cell synchronization:

- Step 1: Slot synchronization;

- Step 2: Frame synchronization and code-group identification;
- Step 3: Scrambling-code identification.
- Step 4: Read the BCH.

4.2.8.3.3 Different channel synchronization procedures

In 1.28Mcps TDD the following procedures are included in channel synchronization procedures:

1) Downlink synchronization primitives

Layer 1 in the UE shall check the synchronization status of each DL CCTrCH individually in every radio frame. All bursts and transport channels of a CCTrCH shall be taken into account. Synchronization status is indicated to higher layers, by using the CPHY-Sync-IND or CPHY-Out-of-Sync-IND primitives.

2) Uplink synchronization primitives

Layer 1 in the Node B shall every radio frame check synchronization status, individually for each UL CCTrCH of the radio link. Synchronization status is indicated to the RL Failure/Restored triggering function using either the CPHY-Sync-IND or CPHY-Out-of-Sync-IND primitive.

In FDD the following procedures are included in Channel Synchronization procedures:

1) Downlink synchronization primitives

Layer 1 in the UE shall every radio frame check synchronization status of the downlink dedicated channels. Synchronization status is indicated to higher layers using the CPHY-Sync-IND and CPHY-Out-of-Sync-IND primitives.

2) Uplink synchronization primitives

Layer 1 in the Node B shall every radio frame check synchronization status of all radio link sets. Synchronization status is indicated to the RL Failure/Restored triggering function using either the CPHY-Sync-IND or CPHY-Out-of-Sync-IND primitive. Hence, only one synchronization status indication shall be given per radio link set.

4.2.9 Different Physical Layer Measurements

4.2.9.1 UE measurement abilities

There are some differences about UE measurement abilities between 1.28Mcps TDD and FDD.

- The specific abilities for TDD:
  - Timeslot ISCP.
  - Timing Advance (T_{ADV}).
- The specific abilities for FDD:
  - UE Rx-Tx time difference
  - CPICH RSCP
  - CPICH Ec/No
- Common abilities which are measured differently:
  - SFN-CFN observed time difference.
  - SFN-SFN observed time difference.
  - Observed time difference to GSM cell.
  - UE GPS Timing of Cell Frames for UE positioning.

4.2.9.2 UTRAN measurement abilities

There are some differences about UTRAN measurement abilities between 1.28Mcps TDD and FDD.

- The specific abilities for 1.28Mcps TDD:
  - RSCP.
  - Timeslot ISCP.
  - RX Timing Deviation.
  - Cell Sync Burst Timing.
  - Cell Sync Burst SIR.
  - Received SYNC-UL Timing Deviation.
- The specific abilities for FDD:
  - SIR_{error}.
  - Physical channel BER.
  - Round trip time.
  - PRACH/PCPCH Propagation delay.
  - Acknowledged PRACH preambles.
  - Detected PCPCH access preambles.
  - Acknowledged PCPCH access preambles.
- Common abilities which are measured differently:
  - SIR.
  - SFN-SFN observed time difference.

4.2.9.3 Compressed mode (For FDD)

The UE capabilities define whether a UE requires compressed mode in order to monitor cells on other FDD frequencies, modes or radio access technologies. UE capabilities indicate the need for compressed mode separately for the uplink and downlink and for each mode, radio access technology and frequency band.

The UE shall support one single measurement purpose for one transmission gap pattern sequence. The measurement purpose of the transmission gap pattern sequence is signalled by higher layers. In response to a request from higher layers, the UTRAN shall signal to the UE the compressed mode parameters.

A transmission gap pattern sequence consists of alternating transmission gap patterns 1 and 2, each of these patterns in turn consists of one or two transmission gaps. See figure 4.2.9-1.

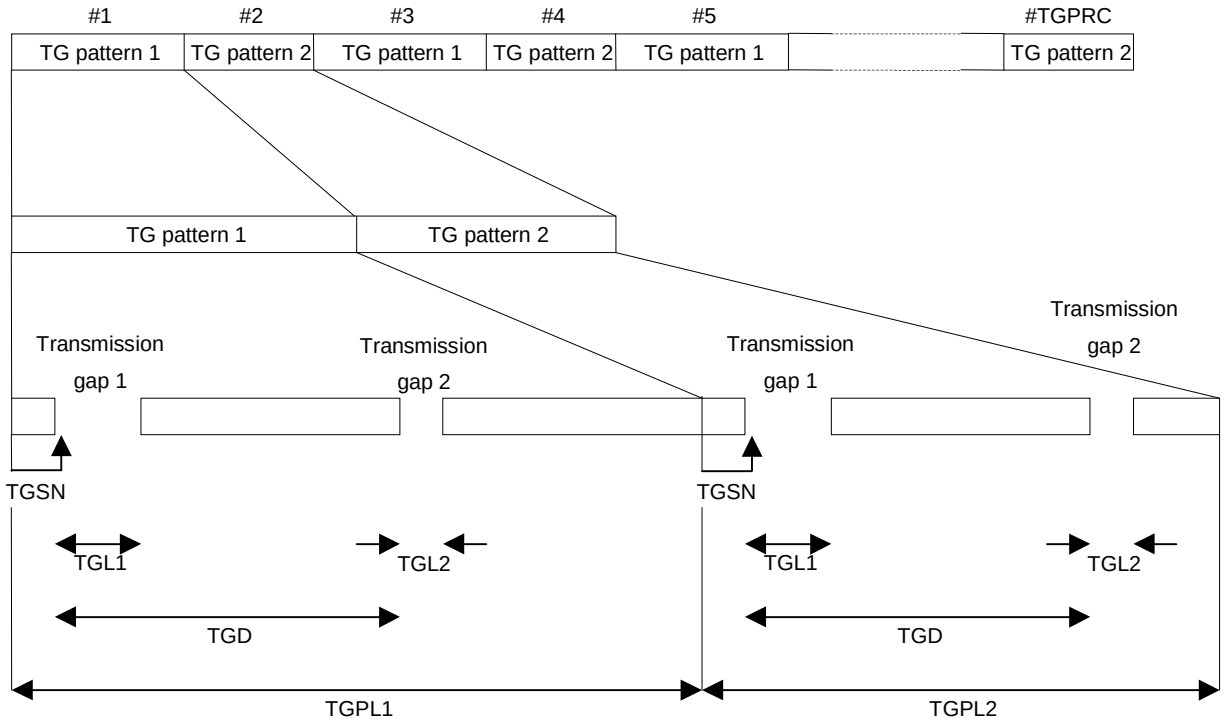


Figure 4.2.9-1: Illustration of compressed mode pattern parameters

The following parameters characterize a transmission gap pattern:

- TGSN (Transmission Gap Starting Slot Number).
- TGL1 (Transmission Gap Length 1).
- TGL2 (Transmission Gap Length 2).
- TGD (Transmission Gap start Distance).
- TGPL1 (Transmission Gap Pattern Length).
- TGPL2 (Transmission Gap Pattern Length).

The following parameters control the transmission gap pattern sequence start and repetition:

- TGPRC (Transmission Gap Pattern Repetition Count).
- TGCFN (Transmission Gap Connection Frame Number).

In addition to the parameters defining the positions of transmission gaps, each transmission gap pattern sequence is characterized by:

- UL/DL compressed mode selection.
- UL compressed mode method.
- DL compressed mode method.
- Downlink frame type.
- Scrambling code change.
- RPP: Recovery Period Power.
- ITP: Initial Transmit Power.

The UE shall support simultaneous compressed mode pattern sequences which can be used for different measurements. The following measurement purposes can be signalled from higher layers:

- FDD.
- TDD.
- GSM carrier RSSI measurement.
- Initial BSIC identification.
- BSIC re-confirmation.

4.2.9.4 Transmit diversity

4.2.9.4.1 In 1.28Mcps TDD

The open loop downlink transmit diversity includes two kinds of diversity: SCTD and TSTD. While SCTD can be applied to any beacon channel, typically Primary CCPCH, TSTD can be used in DPCH, PDSCH, Primary CCPCH and DwPCH.

The closed loop mode transmit diversity can be used in DPCH and PDSCH.

4.2.9.4.2 In FDD

The open loop downlink transmit diversity includes two kinds of diversity: STTD and TSTD. While TSTD can be used only in SCH, STTD can be used in Primary CCPCH, S-CCPCH, DPCH, PDSCH, AICH, PICH, AP-AICH, CD/CA-ICH, CSICH, and DL-DPCCH for CPCH.

The closed loop mode transmit diversity divided into two modes can be used in DPCH, PDSCH, and DL-DPCCH for CPCH. For the closed loop mode 1 different orthogonal dedicated pilot symbols in the DPCCH are sent on two different antennas. For closed loop mode 2 the same dedicated pilot symbols in the DPCCH are sent on both antennas.

4.3 Differences in L2 on Uu interface

L2 includes four sub layers: MAC Medium Access Control , RLC Radio Link Control , PDCP (Packet Data Control Protocol) and BMC (Broadcast/Multicast Control).

Only MAC sub layer is different and the other sub layers are same for 1.28Mcps TDD and FDD mode.

4.3.1 MAC Channel Structure

The MAC operates on the channels defined below; the transport channels are described between MAC and Layer 1, the logical channels are described between MAC and RLC.

There are some specific transport channels in 1.28Mcps TDD and FDD.

In 1.28Mcps TDD: USCH (Uplink Shared Channel)

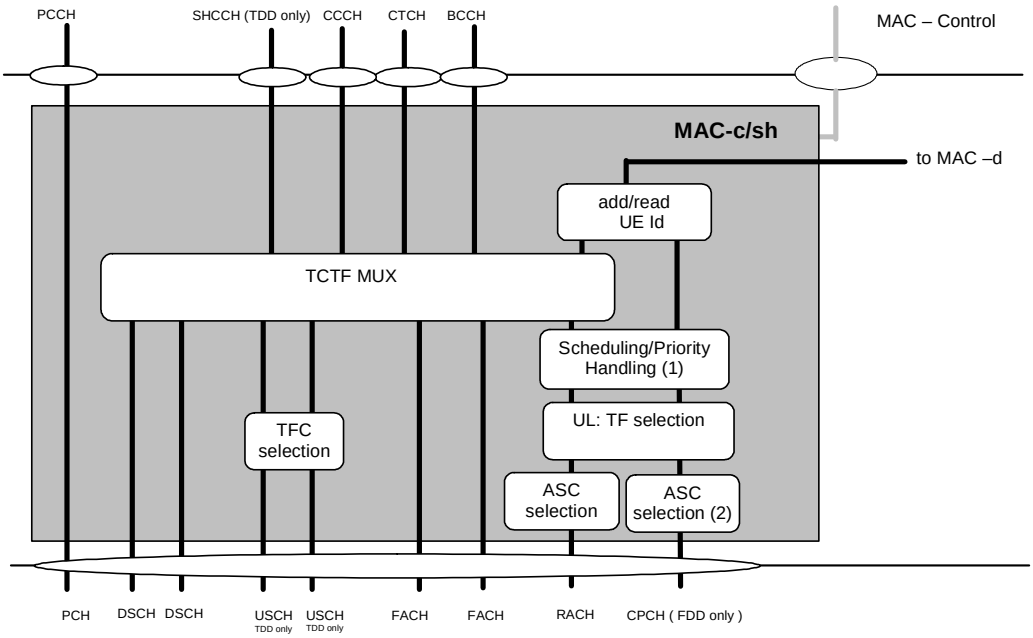
In FDD: CPCH (Common Packet Channel)

4.3.2 MAC Entities

MAC architecture is constructed from MAC entities: MAC-c/sh, MAC-b and MAC-d. Because the MAC-c/sh (see figures 4.3.2-1 and 4.3.2-2) controls access to common transport channels, there are some differences in MAC-c/sh entity to handle the different transport channels for 1.28Mcps TDD and FDD mode, as the following channels:

- RACH.

- CPCH exists only in FDD mode.
- USCH exists only in TDD mode.



NOTE 1: Scheduling /Priority handling is applicable for CPCH.
NOTE 2: In case of CPCH, ASC selection may be applicable for AP preamble.

Figure 4.3.2-1: UE side MAC architecture / MAC-c/sh details

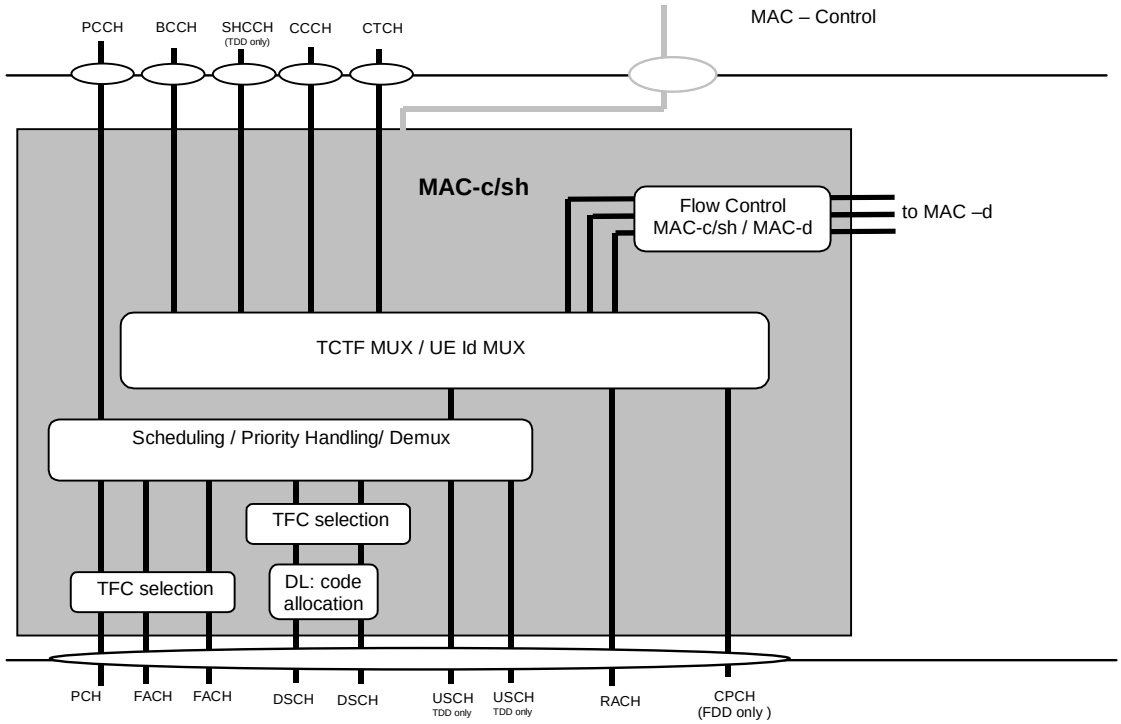


Figure 4.3.2-2: UTRAN side MAC architecture / MAC-c/sh details

4.3.3 MAC Functions

The functions offered by MAC are totally the same in 1.28Mcps TDD and FDD, but there is a specific function exists only in FDD mode:

- Access Service Class selection for CPCH transmission.

4.3.4 MAC Data PDU

MAC PDU consists of an optional MAC header and a MAC Service Data Unit (MAC SDU). MAC header includes TCTF (Target Channel Type Field), UE-Id Type, UE-Id and C/T as figure 4.3.2-3.

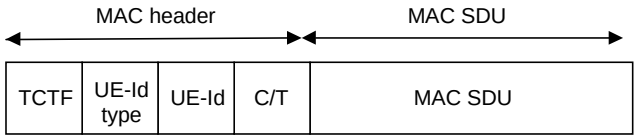


Figure 4.3.2-3: MAC Data PDU

Both the MAC header and the MAC SDU are of variable size. The content and the size of the MAC header depends on the type of the logical channel, and in some cases none of the parameters in the MAC header are needed.

Coding of the TCTF field is different for 1.28Mcps TDD and FDD mode and Coding of the others is the same, But there is a specific value in UE-Id field for FDD.

1) TCTF field

The TCTF field is a flag that provides identification of the logical channel class on FACH and RACH transport channels, i.e. whether it carries BCCH, CCCH, CTCH, SHCCH or dedicated logical channel information.

- The size of the TCTF field of FACH:
  - The size of the TCTF field of FACH for FDD is either 2 bits or 8 bits depending on the value of the 2 most significant bits and for TDD is either 3 bits or 5 bits depending on the value of the 3 most significant bits, see tables 4.3.4-1 and 4.3.4-2.

Table 4.3.4-1: Coding of the Target Channel Type Field on FACH for TDD

TCTF	Designation
000	BCCH
001	CCCH
010	CTCH
01100	DCCH or DTCH over FACH
01101 to 01111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
100	SHCCH
101 to 111	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Table 4.3.4-2: Coding of the Target Channel Type Field on FACH for FDD

TCTF	Designation
00	BCCH
01000000	CCCH
01000001 to 01111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
10000000	CTCH
10000001 to 10111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
11	DCCH or DTCH over FACH

- The size of the TCTF of the RACH:
  - The size of the TCTF of the RACH for FDD is 2 bits and for TDD is either 2 bits or 4 bits depending on the value of the 2 most significant bits, see tables 4.3.4-3 and 4.3.4-4.

Table 4.3.4-3: Coding of the Target Channel Type Field on RACH for FDD

TCTF	Designation
00	CCCH
01	DCCH or DTCH over RACH
10 to 11	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Table 4.3.4-4: Coding of the Target Channel Type Field on RACH for TDD

TCTF	Designation
00	CCCH
0100	DCCH or DTCH Over RACH
0101 to 0111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
10	SHCCH
11	Reserved (PDUs with this coding will be discarded by this version of the protocol)

- The size of the TCTF of the USCH or DSCH:
  - The size of the TCTF of the USCH or DSCH for TDD is 1 bit, see table 4.3.4-5.

Table 4.3.4-5: Coding of the Target Channel Type Field on USCH or DSCH (TDD only)

TCTF	Designation
0	SHCCH
1	DCCH or DTCH over USCH or DSCH

- DTCH or DCCH mapped to DSCH or USCH:
  - The TCTF field is included in the MAC header for TDD only.
  - The UE-Id type and UE-Id are included in the MAC header for FDD only.
- DTCH or DCCH mapped to CPCH (FDD):
  - UE-Id type field and UE-Id are included in the MAC header.
- DTCH or DCCH mapped to DSCH or USCH where DTCH or DCCH are the only logical channels:
  - The UE-Id type and UE-Id are included in the MAC header for FDD only.

2) UE-Id Field

The UE-Id field provides an identifier of the UE on common transport channels.

As a specific UE-Id value, DSCH Radio Network Temporary Identity (DSCH-RNTI) is used on DTCH and DCCH in downlink when mapped onto DSCH transport channel for FDD mode.

Table 4.3.4-6: Lengths of UE-Id field

UE Id type	Length of UE Id field
U-RNTI	32 bits
C-RNTI	16 bits
DSCH-RNTI	16 bits

4.3.5 Specific Functions

1) Control of RACH transmissions

The MAC sub layer is in charge of controlling the timing of RACH transmissions on transmission time interval level. There are some differences in control of RACH transmissions owing to the following reasons:

- Different IEs for control of RACH transmission configured by RRC:
  - In 1.28Mcps TDD:
    - TTI for RACH: 5 ms, 10 ms or 20 ms.
  - In FDD:
    - TTI for RACH: 10 ms or 20 ms;
- Differences in TTI selection mode.
- The different physical RACH resources, which may be divided between different Access Service Classes in order to provide different priorities of RACH usage:
  - In 1.28Mcps TDD:
    - Physical RACH resource only includes SYNC1 code. RACH transmission control procedure is different for 1.28Mcps TDD and FDD, see figures 4.3.5-1 and 4.3.5-2.
  - In FDD:
    - Physical RACH resources include Access slots and preamble signatures;

In FDD mode, the control procedure is more complex than TDD mode.

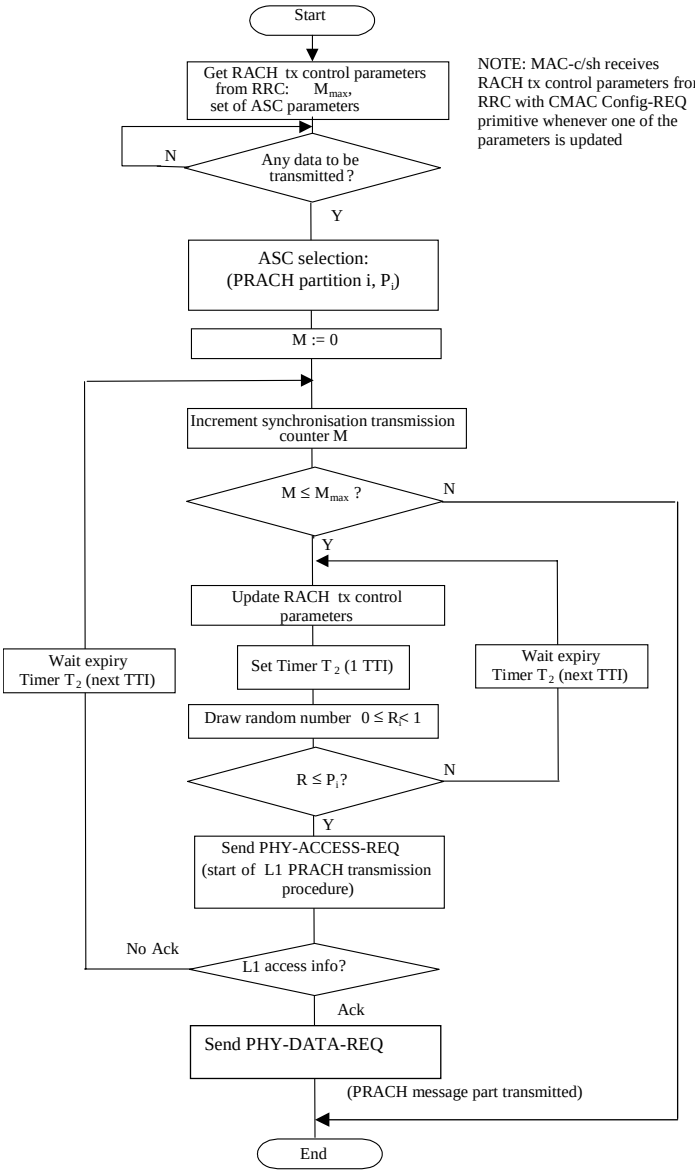


Figure 4.3.5-1 (informative): RACH transmission control procedure for 1.28Mcps TDD UE Side

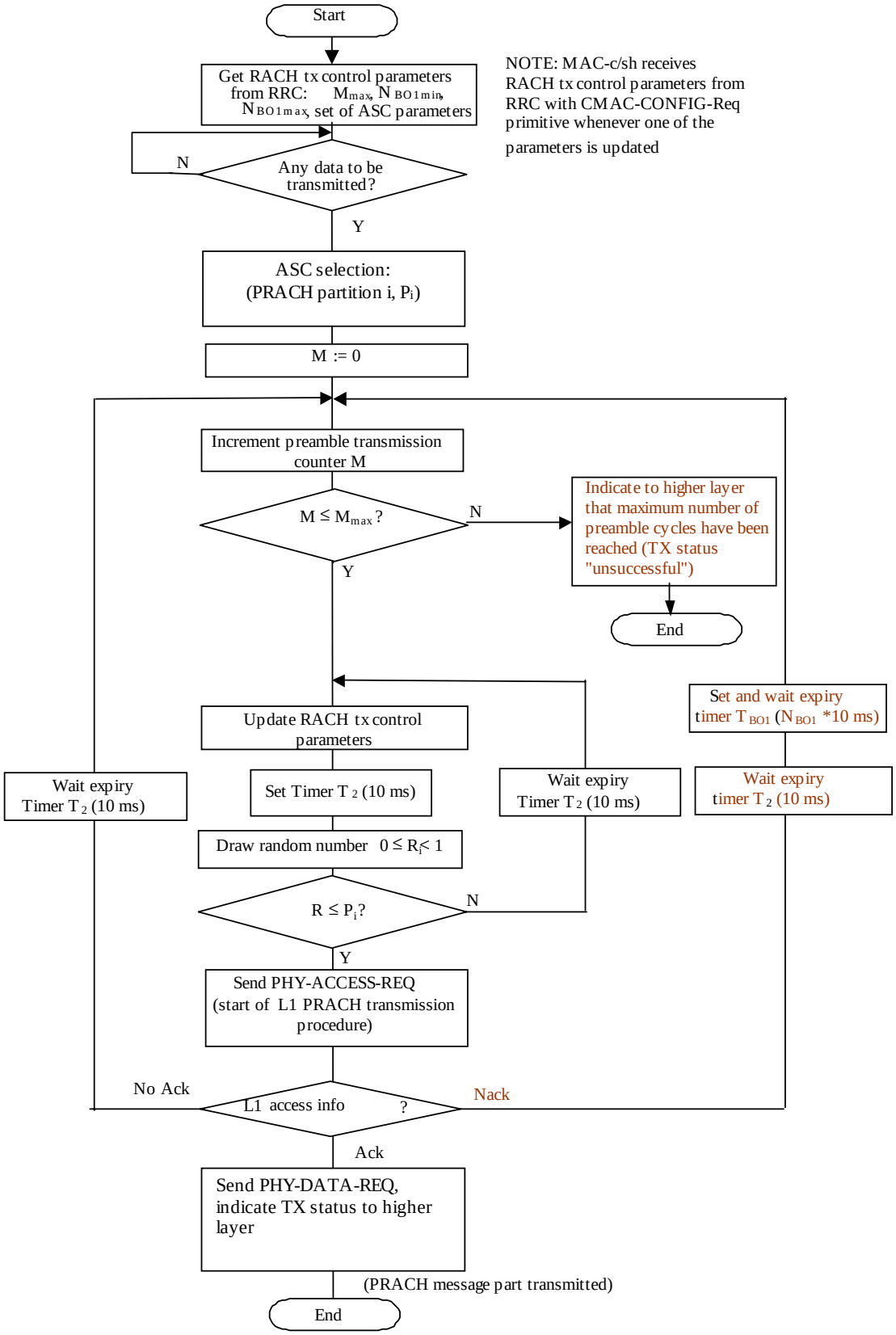


Figure 4.3.5-2 (informative): RACH transmission control procedure for FDD UE Side

2) Control of CPCH transmissions (FDD mode)

The MAC layer controls the timing of CPCH transmissions on transmission time interval level (i.e. on 10 ms, 20 ms, 40 ms or 80 ms level); the timing on access slot level is controlled by L1. MAC controls the timing of each initial preamble ramping cycle as well as successive preamble ramping cycles. Note that retransmissions in case of erroneously received CPCH message part are under control of higher layers. Figure 4.3.5-3 procedure is used for access to CPCH channel. Figure 4.3.5-4 procedure is used for CPCH Message transmission on the CPCH channel obtained using the access procedure.

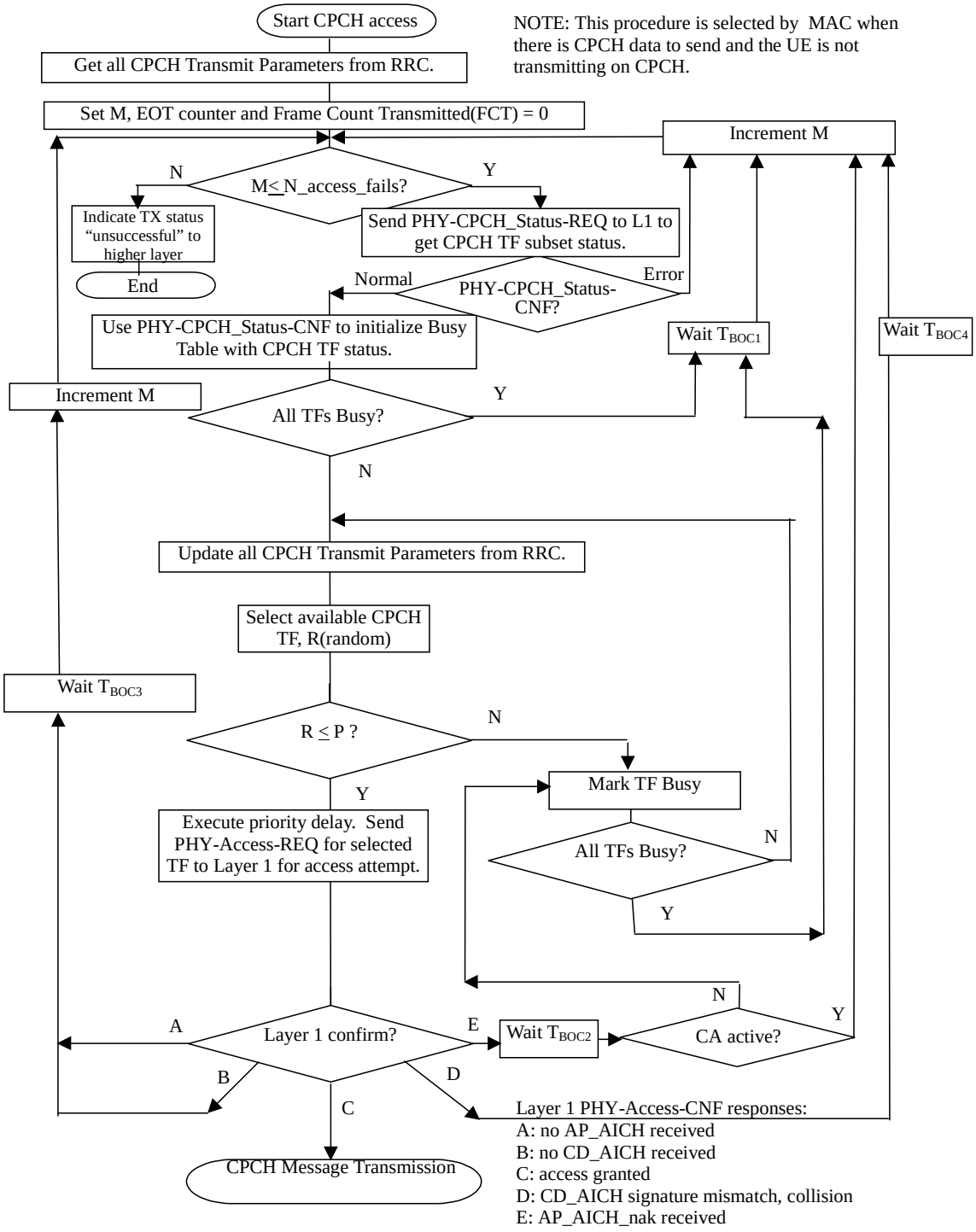


Figure 4.3.5-3: CPCH transmission control procedure for access (informative)

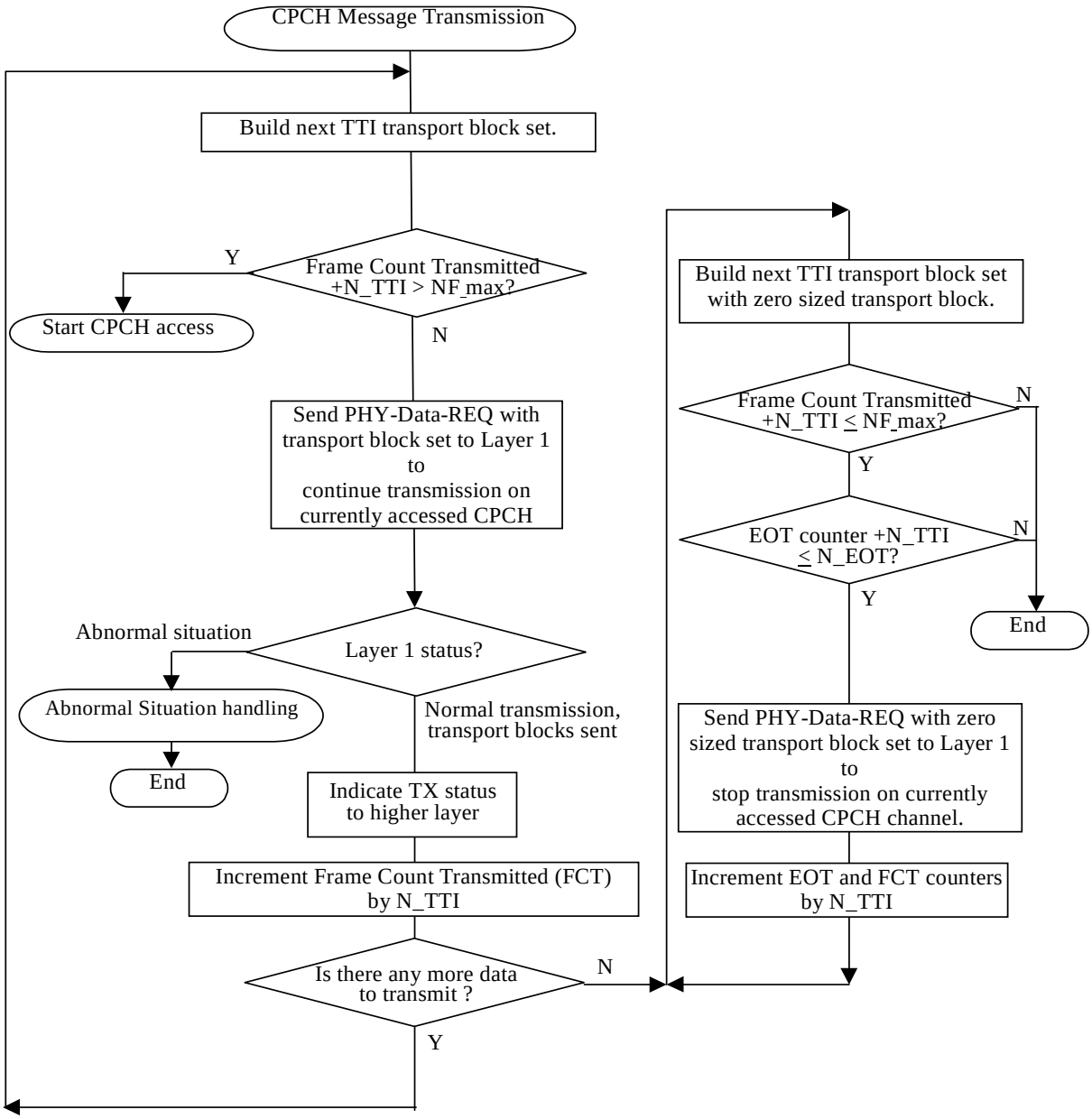


Figure 4.3.5-4: CPCH transmission control procedure for CPCH Message Transmission (informative)

3) Transport format combination selection in UE

RRC can control the scheduling of uplink data by giving each logical channel a priority between 1 and 8, where 1 is the highest priority and 8 the lowest. TFC selection in the UE shall be done in accordance with the priorities indicated by RRC.

In TDD mode:

UEs in CELL_FACH state using the USCH transport channel and UEs in CELL_DCH state shall continuously monitor the state of each TFC based on its required transmit power versus the maximum UE transmit power.

In FDD Mode:

UEs in CELL_FACH state may estimate the channel path loss and set to excess power state all the TFCs requiring more power than the Maximum UE transmitter power.

4.3.6 Elements for layer-to-layer communication

Primitives between MAC and RLC or RRC are the same, but their parameters are different.

1) Primitives between MAC and RLC

- RX Timing Deviation, TDD only it contains the RX Timing Deviation as measured by the physical layer for the physical resources carrying the data of the Message Unit. This parameter is optional and only for Indication. It is needed for the transfer of the RX Timing Deviation measurement of RACH transmissions carrying CCCH data to RRC.

2) Primitives between MAC and RRC

- RACH transmission control elements:
  - In 1.28Mcps TDD:
    - Synchronization attempts (Mmax).
  - In FDD:
    - Maximum number of preamble ramping cycles (Mmax), Minimum and maximum number of time units between two preamble ramping cycles (NBO1min and NBO1max).
- CPCH transmission control element, FDD only:
  - CPCH persistency value, P for each Transport Format.
  - Maximum number of preamble ramping cycles $N_{\_access\_fails}$.
  - NF_max (Maximum number of frames for CPCH transmission for each Transport Format).
  - N_EOT (Number of EOT for release of CPCH transmission).
  - Backoff control timer parameters.
  - Transport Format Set.
  - Initial Priority Delays.
  - Channel Assignment Active indication.

4.4 Differences in L3 on Uu interface

4.4.1 RRC Services

RRC Services provided to upper layers are same for UTRA 1.28Mcps TDD and for FDD.

4.4.2 RRC Functions

In the whole stratum, there is no other difference between 1.28Mcps TDD and FDD except slow DCA and Time advance.

The purpose of DCA is on one side the limitation of the interference (keeping required QoS) and on the other side to maximise the system capacity due to minimising reuse distance. Slow DCA refers to resource allocation to cells, the prioritised assignment of time slots based on interference measurements results in a clustering in the time domain and in parallel takes into account the demands on locally different traffic loads within the network.

Timing advance control is shown in sub clause 4.4.3.1.4.

4.4.3 RRC Procedures

4.4.3.1 Specific procedures for 1.28Mcps TDD only

4.4.3.1.1 Physical Shared Channel Allocation

Figure 4.4.3-1: Physical Shared Channel Allocation procedure

The purpose of this procedure is to allocate radio resources to USCH and/or DSCH transport channels for use by a UE. This procedure can also be used to indicate to the UE, that a PUSCH allocation is pending, in order to prevent further capacity requests from the UE.

UEs are not required to receive FACH and DSCH simultaneously, i.e. if resources are allocated to DSCH the FACH reception may be suspended.

4.4.3.1.2 PUSCH capacity request

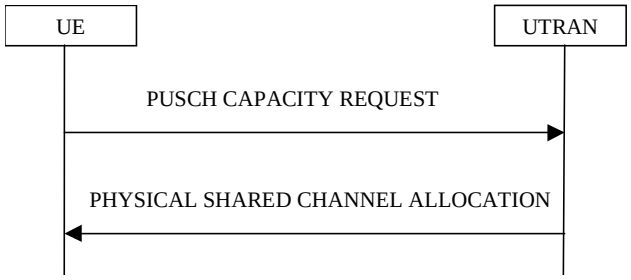


Figure 4.4.3-2: PUSCH Capacity request procedure

With this procedure, the UE transmits its request for PUSCH resources to the UTRAN. In the normal case, the UTRAN responds with a PHYSICAL SHARED CHANNEL ALLOCATION message, which either allocates the requested PUSCH resources, and/or allocates a PDSCH resource, or may just serve as an acknowledgement, indicating that PUSCH allocation is pending.

This procedure can also be used to acknowledge the reception of a PHYSICAL SHARED CHANNEL ALLOCATION message, or to indicate a protocol error in that message.

With the PUSCH CAPACITY REQUEST message, the UE can request capacity for one or more USCH.

if the Radio Bearer associated with the MEASUREMENT_IDENTITY fulfilling the reporting criteria for an ongoing traffic volume measurement is mapped on transport channel of type USCH, the UE shall initiate the "PUSCH CAPACITY REQUEST" procedure instead of transmitting a MEASUREMENT REPORT.

4.4.3.1.3 Uplink Physical Channel Control

Figure 4.4.3-3: Uplink Physical Channel Control procedure

The uplink physical channel control procedure is used to control the uplink outer loop power control and Uplink synchronization running in the UE.

The UTRAN uses the procedure to update parameters for uplink open loop power control in the UE for one CCTrCH or to inform the UE about a new Uplink synchronization step size and Uplink synchronization frequency.

4.4.3.1.4 UL Timing advance control

When the UE process "Physical Shared Channel Allocation", "Physical Channel Reconfiguration", "Handover to UTRAN", "Cell Update Confirm ", or "Radio Bearer Setup/Reconfiguration" procedures with the IE "UL Timing Advance Control" in 1.28Mcps TDD, the UE shall act as the following figure.

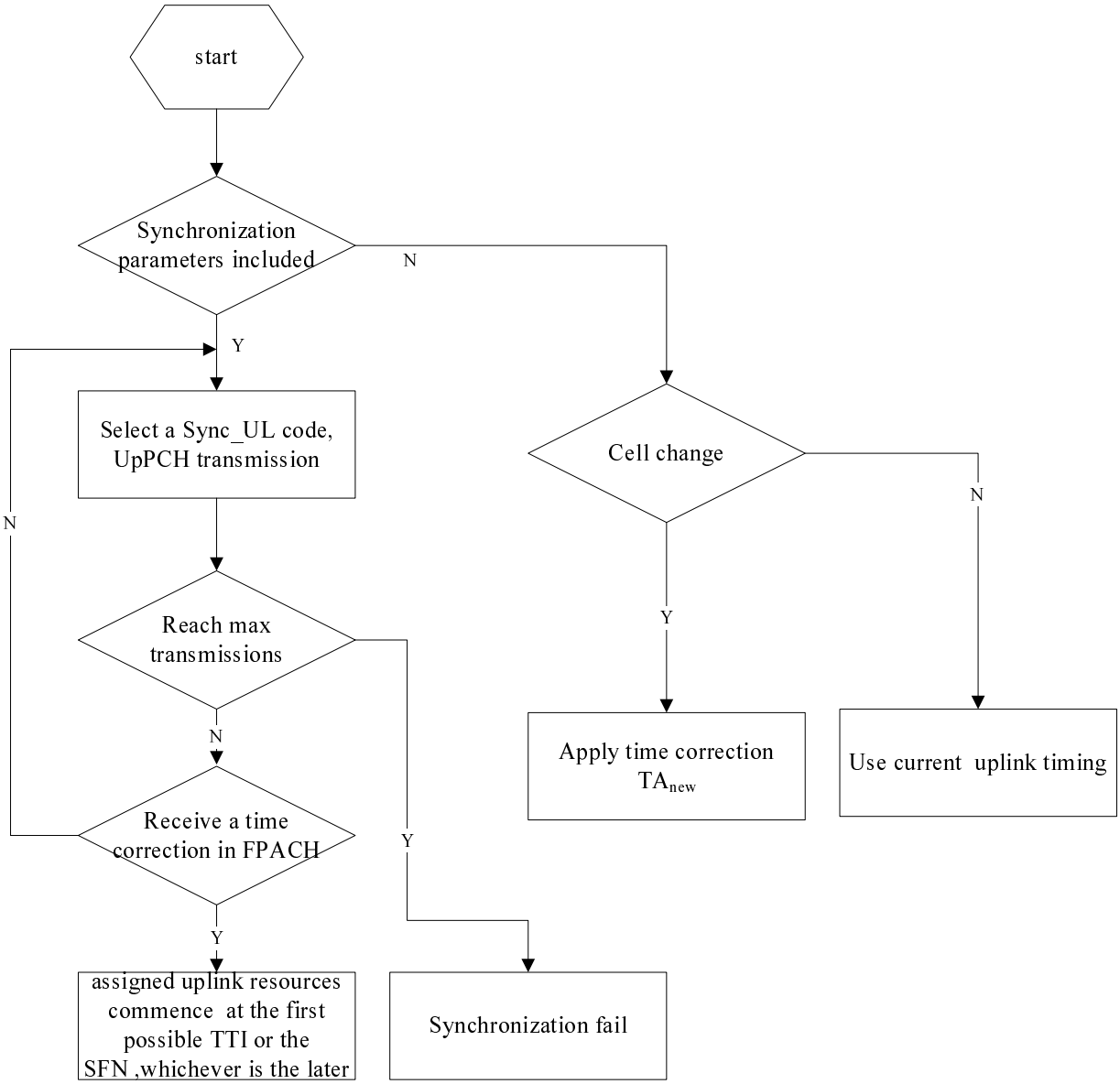


Figure 4.4.3-4: Uplink Timing advance control procedure

4.4.3.2 Specific procedures for FDD only

4.4.3.2.1 Active set update

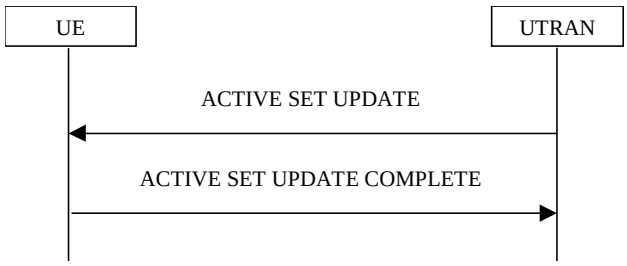


Figure 4.4.3-5: Active Set Update procedure

The purpose of the active set update procedure is to update the active set of the connection between the UE and UTRAN. This procedure shall be used in CELL_DCH state to make the following modifications of the active set of the connection:

a) Radio link addition;

b) Radio link removal;

c) Combined radio link addition and removal.

The UE should keep on using the old RLs while configuring the new RLs. Also the UE should keep the transmitter turned on during the procedure.

4.4.3.2.2 Open loop power control upon establishment of DPCCH

When establishing the first DPCCH the UE shall start the UL inner loop power control at a power level according to:

1) DPCCH_Initial_power = DPCCH_Power_offset – CPICH_RSCP.

Where:

- DPCCH_Power_offset shall have the value of IE "DPCCH Power offset" in IE "Uplink DPCH power control info".

The value for the CPICH_RSCP shall be measured by the UE.

4.4.3.2.3 Physical channel establishment criteria

When a physical dedicated channel establishment is initiated by the UE, the UE performs synchronization procedure A (FDD only), starts a timer T312 and waits for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel failure".

4.4.3.3 Common procedures

4.4.3.3.1 Open loop power control

For 1.28Mcps TDD the UE shall:

- calculate the UL transmit power according to the following formula for each UpPCH code transmission:

$$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCH_{des}} + (i-1) \times Pwr_{ramp}$$

NOTE: When i equals to 1, the initial signature power "Signature_Initial_Power" corresponds to P_{UpPCH} with i set to 1.

- calculate the UL transmit power according to the following formula for each PRACH transmission:

$$P_{PRACH} = L_{PCCPCH} + PRX_{PRACH_{des}} + (i_{UpPCH}-1) \times Pwr_{ramp}$$

- calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transits to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{USCH} = PRX_{PUSCH_{des}} + L_{PCCPCH}$$

- calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transits to closed loop power control.

$$P_{DPCH} = PRX_{PDPCH_{des}} + L_{PCCPCH}$$

Where:

- P_{UpPCH}, P_{PRACH}, P_{DPCH} and P_{USCH}: Transmitter power level in dBm.

- L_{PCCPCH}: Measurement representing path loss in dB.

- $PRXchannel_{des}$: Desired channel RX power at the cell's receiver in dBm.

- Pwr_{ramp}: increasing step value in transmission power by every UpPCH transmission.

In FDD, preamble is used in the initial random access on RACH and CPCH and open loop power control is used for preamble transmission. In 1.28Mcps TDD, uplink synchronization code SYNC_UL is transmitted on UpPCH for initial access and open loop control is also used for UpPCH transmission.

For FDD, prior to PRACH or PCPCH transmission the UE shall:

- read the IEs "Primary CPICH Tx power" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and the IE "UL interference" in System Information Block type 7;
- measure the value for the CPICH_RSCP;
- calculate the power for the first preamble as:

Preamble_Initial_Power = Primary CPICH TX power – CPICH_RSCP + UL interference + Constant Value

4.4.3.3.2 CFN calculation

The DOFF used in the formulas in this clause concerns the value of IE "Default DPCH Offset Value" received in the message that instructs the UE to enter CELL_DCH state or to perform timing re-initialized hard handover.

When the UE receives any of the messages causing the UE to perform a state transition to CELL_DCH, or the UE is in CELL_DCH state and receives any of the messages causing the UE to perform a timing re-initialized hard handover, the UE shall set the CFN in relation to the SFN of the first radio link listed in the IE "Downlink information per radio link list" included in that message according to the following formula:

- for TDD:

$$CFN = (SFN - DOFF) \bmod 256.$$

- for FDD:

$$CFN = (SFN - (DOFF \operatorname{div} 38400)) \bmod 256$$

  where the formula gives the CFN of the downlink DPCH frame which starts at the same time as or which starts during the PCCPCH frame with the given SFN.

Upon inter RAT handover to UTRAN the UE shall, regardless of the value received within IE "Timing indication" (if received) read SFN on target cell and set the CFN according to the preceding two formulas.

When the UE performs cell selection, re-selection or changes to CELL_FACH state the UE shall set CFN for all common or shared channels according to:

$$CFN = SFN \bmod 256$$

where the formula gives the CFN of the downlink common or shared channel frame which starts at the same time as or which starts during the PCCPCH frame with the given SFN.

4.4.3.3.3 PRACH selection

For this version of the specification, when a UE selects a cell, the uplink frequency to be used for the initial PRACH transmission shall have a default duplex frequency spacing offset from the downlink frequency that the cell was selected on (for FDD only).

The UE shall select "PRACH system information" according to the following rule. The UE shall:

- select a "PRACH system information" from the ones indicated in the IE "PRACH system information list" in System Information Block type 5 (applicable in Idle Mode and Connected Mode) or System Information Block type 6 (applicable in Connected Mode only), as follows:

- if in connected mode and System Information Block type 6 is defined and includes PRACH info:
  - compile a list of candidate PRACHs that consists of the PRACH system information listed in SIB 6, in the order of appearance as in SIB 6.
- otherwise:
  - compile a list of candidate PRACHs that consists of the PRACH system information listed in SIB 5, in the order of appearance as in SIB 5.
- perform RACH TTI selection as specified in sub clause 4.4.3.3.4.
- remove from the list of candidate PRACHs those PRACHs that have a TTI length different from the selected value;
- select a PRACH randomly from the list of candidate PRACHs as follows:

  "Index of selected PRACH" = floor (rand * K)

  where K is equal to the number of candidate PRACH system information blocks, "rand" is a random number uniformly distributed in the $0 \leq rand < 1$ and "floor" refers to rounding down to nearest integer. At start-up of the random number generator in the UE the seed shall be dependent on the IMSI of the UE or time, thereby avoiding that all UEs select the same RACH;
- use the TFCS of the selected PRACH when performing TFC selection;
- reselect the PRACH system information when a new cell is selected. RACH reselection may also be performed after each transmission of a Transport Block Set on RACH.

- for emergency call, the UE is allowed to select any of the available PRACH system information blocks.

After selecting a PRACH system information, the RRC in the UE shall configure the MAC and the physical layer for the RACH access according to the parameters included in the selected "PRACH system information" IE.

4.4.3.3.4 RACH TTI selection

In 1.28Mcps TDD, perform RACH TTI selection as follows:

- RACH may be assigned a 5 ms, 10 ms or 20 ms TTI. If, in one cell, more than one RACH is defined a UE shall select the RACH that is to be used for each transmission according to the following rule:
  - if only RACHs with one particular TTI length are assigned a transport format that is suitable for the transmission of the transport block set:
    - select this RACH's TTI length.
  - if more than one RACHs are assigned a transport format that is suitable for the transmission of the transport block set:
    - select the longest of the TTI lengths of these RACHs.

In FDD, perform RACH TTI selection as follows:

- RACH may be assigned a 10 or 20 ms TTI. The supported TTI is indicated as a semi-static parameter of the RACH Transport Format in system information. If only RACHs with one particular TTI length are included in the list of candidate PRACH(s), select this TTI length . If both PRACHs with 10ms and 20ms TTI lengths are included in the list, perform TTI selection as follows:
  - when the UE calculates the initial preamble transmit power ("Preamble_Initial_Power"), select a TF to be employed for calculation of a transmit power margin as follows:
    - from the TFs supported by all candidate PRACHs keep those which correspond to a single transport block of all configured RLC sizes (i.e., in idle mode, the RLC size applicable for RB0, in connected mode, the RLC sizes configured with explicit "RB mapping info"). If more than a single TF remain applicable, the UE may select any of these. Preferably the UE should select the TF which is intended to be used at the

next transmission or, if such information is not available, the TF corresponding to the largest configured RLC size.

- calculate a transmit power margin,

  Margin = {min(Maximum allowed UL tx power, P_MAX) −max(Preamble_Initial_Power, Preamble_Initial_Power + ΔPp-m + 10*log10(1 + (βd /βc)2)}

  where "Maximum allowed UL tx power" is the maximum allowed uplink transmit power indicated in system information (in dBm), and P_MAX is the maximum RF output power of the UE (dBm). The margin shall be calculated for the gain factors β_d and β_c of the TF selected in the step above, using 10ms TTI length.

NOTE: the expression Preamble_Initial_Power + ΔPp-m + $10*\log_{10}(1 + (\beta_d / \beta_c)^2)$ represents the total RACH message power if the message would be sent after the initial preamble.

- if the resulting "Margin" value is less than 6 dB:
  - select RACH with 20 ms TTI.
- otherwise, if the last L1 message transmission on PRACH failed:
  - the UE may select RACH with 20ms TTI length.
- otherwise:
  - select RACH with 10ms TTI length.

4.4.3.3.5 Reception of Handover to UTRAN command message by UE

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

- if IE "Specification mode" is set to "Preconfiguration":
  - use the following values for parameters that are neither signalled within the HANDOVER TO UTRAN COMMAND message nor included within pre-defined or default configuration:
    - 0 dB for the power offset $P_{Pilot\text{-}DPDCH}$ bearer in FDD;
    - calculate the Default DPCH Offset Value using the following formula:
    - in FDD:

      Default DPCH Offset Value = (SRNTI 2 mod 600) × 512

    - in TDD:

      Default DPCH Offset Value = (SRNTI 2 mod 7)

    - handle the above Default DPCH Offset Value as if an IE with that value was included in the message.

4.4.4 Generic actions on receipt of an information element

4.4.4.1 Specific information elements for 1.28Mcps TDD only

4.4.4.1.1 Repetition period, Repetition length, Offset

In case the physical allocations of different channels overlap in TDD the following priority rules shall be applied for common channels and shall be taken into account by the UE:

- PICH takes precedence over Primary CCPCH;
- PICH takes precedence over Secondary CCPCH;

- Secondary CCPCH takes precedence over Primary CCPCH.

The frame allocation can be derived by following rules:

If no IE "Offset" is explicitly given, the parameter "Offset" to be used is calculated by the following equation:

Activation time mod Repetition period = Offset.

Frames from CFN CFN_{off} to CFN_{off} + Repetition length - 1 belong to the allocation with CFN_{off} fulfilling the following equation:

CFN_{off} mod Repetition period = Offset.

Repetition length is always a multiple of the largest TTI within the CCTrCH fulfilling the following equation:

(largest TTI within CCTrCH) × X = Repetition Length

Example of usage:

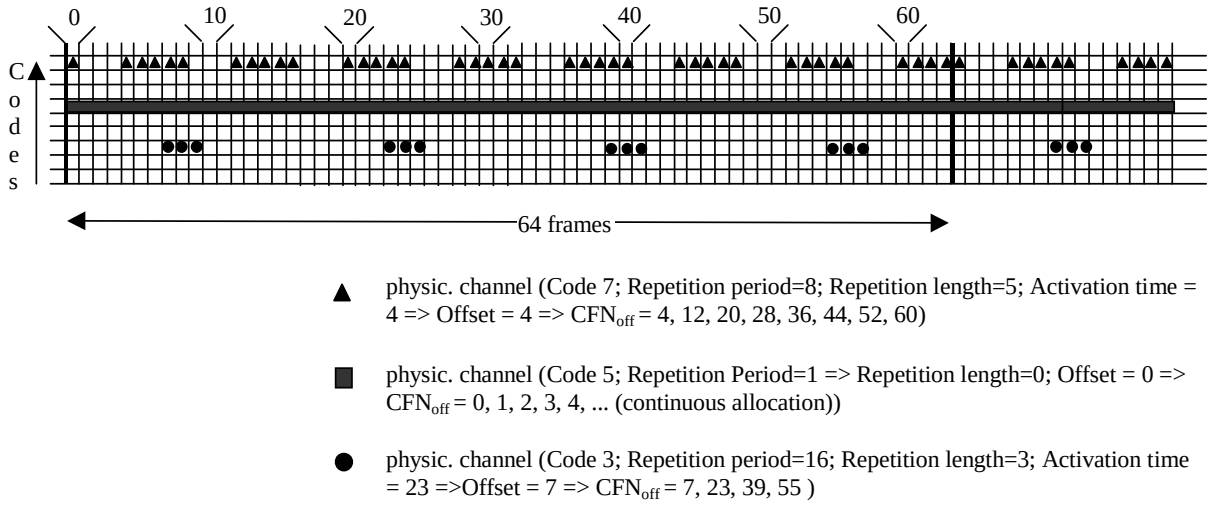


Figure 4.4.4-1: Examples for frame allocations in TDD

4.4.4.1.2 UL Timing advance control

See sub clause 4.4.3.1.4.

4.4.4.1.3 FPACH/PRACH Selection

Where more than one FPACH is defined, the FPACH that a UE should receive following a UpPCH transmission is defined by the UpPCH signature (SYNC_UL) code that the UE used. The FPACH/PRACH number = N mod M where N denotes the signature number (0..7) and M denotes the number of FPACH/PRACH combinations that have been defined. The FPACH/PRACH number indicates the position of the FPACH/PRACH description in the IE "PRACH info".

The PRACH that should be used is selected out of the ones associated with the FPACH in the IE "PRACH info".

The relevant PRACH is the n_{RACHi}^{th} PRACH associated to the $FPACH_i$ if the following equation is fulfilled:

$$(SFN' \bmod L)=n_{RACHi};$$

Where:

- SFN': the sub-frame number of the arrival of the FPACH acknowledgement.
- L: the number of PRACHs associated to the i^{th} FPACH.

4.4.4.2 Specific information elements for FDD only

4.4.4.2.1 DRAC static information

If the IE "DRAC static information" is included the UE shall:

- store the content of the IE "Transmission Time Validity";
- store the content of the IE "Time duration before retry";
- store the content of the IE "DRAC Class identity".

4.4.4.2.2 Secondary CPICH info

If the IE Secondary CPICH info is included, the UE may:

- use the channelization code according to IE "channelization code", with scrambling code according to IE "DL scrambling code" in the IE "Secondary CPICH info", for channel estimation of that radio link;
- use the pilot bits on DPCCH for channel estimation.

If the IE Secondary CPICH info is not included, the UE shall:

- not use any previously stored configuration corresponding to the usage of the Secondary CPICH info.

4.4.4.2.3 Primary CPICH usage for channel estimation

If the IE "Primary CPICH usage for channel estimation" is included and has the value "Primary CPICH may be used" the UE:

- may use the Primary CPICH for channel estimation;
- may use the pilot bits on DPCCH for channel estimation.

If the IE "Primary CPICH usage for channel estimation" is included and has the value "Primary CPICH shall not be used" the UE:

- shall not use the Primary CPICH for channel estimation;
- may use the Secondary CPICH for channel estimation;
- may use the pilot bits on DPCCH for channel estimation.

4.4.4.2.4 PDSCH with SHO DCH Info

If the IE "PDSCH with SHO DCH Info" is included, the UE shall:

- configure itself to receive the PDSCH from the specified radio link within the active set identified by the IE "DSCH radio link identifier";
- if the TFCI has a 'hard' split:
  - if the IE "TFCI(field2) combining set" is included:
    - configure the Layer 1 to combine soft only the DPCCH TFCI(field 2) of the radio links within the active set which are identified by the IE "Radio link identifier" in the IE "TFCI(field2) Combining set".
  - if the IE "TFCI(field2) combining set" is not included:
    - configure the L1 to combine soft the DPCCH TFCI(field 2) of all radio links within the active set.

4.4.4.2.5 PDSCH code mapping

If the IE "PDSCH code mapping" is included, the UE shall:

- use the scrambling code defined by the IE "DL Scrambling Code" to receive the PDSCH;
- if the IE choice "signalling method" is set to 'code range', 'TFCI range', 'Explicit', or 'Replace', map the TFCI(field2) values to PDSCH codes.

4.4.4.2.6 CPCH SET Info

If the UE has the capability to use CPCH, the UE shall use the following general procedures:

- if an IE "CPCH SET Info" is included in a dedicated message:
  - read the "CPCH set ID" included in the IE;
  - store the IE using the "CPCH set ID" as an address tag;
  - release any active dedicated physical channels in the uplink;
  - let the PCPCHs listed in the CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH SET Info" is included in a System Information message:
  - read the "CPCH set ID" included in the IE;
  - store the IE using the "CPCH set ID" as an address tag.

4.4.4.2.7 CPCH set ID

If the UE has the capability to use CPCH, the UE shall use the following general procedures. The UE shall:

- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info":
  - use the IE as an address tag to retrieve the corresponding stored "CPCH SET Info";
  - release any active dedicated physical channels in the uplink;
  - let the PCPCHs listed in the CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info", and if there is no corresponding stored "CPCH SET Info":
  - release any active dedicated physical channels in the uplink;
  - let the last assigned PRACH be the default in the uplink for RACH;
  - obtain current System Information on SCCPCH to obtain and store the "CPCH SET info" IE(s);
  - upon receipt of a "CPCH SET Info" which corresponds to the "CPCH set ID" IE:
    - ♦ let the PCPCHs listed in that CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH set ID" is not included in a dedicated message and the UE prior to the receipt of this message had configured the PCPCH as the default in the uplink:
  - stop using the PCPCH;
  - let the last assigned PRACH be the default in the uplink for RACH.

4.4.4.2.8 Secondary Scrambling Code, Code Number

Code Number can be assigned by following rules:

- When more than one DL DPDCH is assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [16]. When *p* of DL DPDCHs are assigned to each RL, the first pair of Secondary Scrambling Code and Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".

4.4.4.2.9 SRB delay, PC preamble

When the IE "SRB delay" and IE "PC preamble" is received in a message that results in a configuration of uplink DPCH, the UE shall:

- after the establishment of the uplink physical channel, send DPCCH and no DPDCH according to [15] during the number of frames indicated in the IE "PC preamble"; and
- then do not send any data on signalling radio bearers RB0 to RB4 during the number of frames indicated in the IE "SRB delay".

4.4.4.3 Common information elements

4.4.4.3.1 New DSCH-RNTI

If the IE "New DSCH-RNTI" is included, the UE shall:

- in FDD:
  - if the UE will be in CELL_DCH at the end of the procedure where the received message included this IE:
    - if the UE supports DSCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Capability":
      - store the value in the variable DSCH_RNTI, replacing any old stored value;
      - use that DSCH-RNTI when using common transport channels of type DSCH in the current cell.
- in TDD:
  - if the UE will be in CELL_DCH or CELL_FACH at the end of the procedure where the received message included this IE:
    - if the UE supports DSCH or USCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Capability":
      - store the value in the variable DSCH_RNTI, replacing any old stored value;
      - use that DSCH-RNTI when using SHCCH signalling in the current cell.

4.4.4.3.2 Capability Update Requirement

If the IE "Capability Update Requirement" is included the UE shall:

- if the IE "UE radio access FDD capability update requirement" has the value TRUE:
  - if the UE supports FDD mode:
    - store its UTRA FDD capabilities and its UTRA capabilities common to FDD and TDD in the IE "UE radio access capability" and the IE "UE radio access capability extension" in variable UE_CAPABILITY_REQUESTED.
- if the IE "UE radio access 1.28 Mcps TDD capability update requirement" has the value TRUE:
  - if the UE supports 1.28 Mcps TDD mode:
    - store its UTRAN-specific 1.28 Mcps TDD capabilities and its UTRAN–specific capabilities common to FDD and TDD in the variable UE_CAPABILITY_REQUESTED.
- if the IE "System specific capability update requirement list" is present:
  - for each of the RAT requested in the IE "UE system specific capability":
    - if the UE supports the listed RAT:

- include its inter-RAT radio access capabilities for the listed RAT in the IE "UE system specific capability" from the variable UE_CAPABILITY_REQUESTED.

4.4.4.3.3 Transport Format Set

if the IE "Transport format set" has the choice "Transport channel type" set to "Common transport channel":

- in FDD:
  - for transport channels other than DSCH calculate the transport block size for all transport formats in the TFS using the following:

    TB size = RLC size.

  - for DSCH transport channels calculate the transport block size for all transport formats in the TFS using the following:

    TB size = RLC size + MAC header size if "RLC size" <> 0,
    TB size = 0 if "RLC size" = 0,

    where:

    - 'RLC size' reflects the RLC PDU size.
- for TDD calculate the transport block size for all transport formats in the TFS using the following:

  TB size = RLC size.

4.4.4.3.4 Transport format combination subset

Contrary to FDD, more than one CCTrCH can be configured in uplink in TDD, thus an identifier (TFCS Identity) for the CCTrCHs is required. If the IE "Transport format combination subset"("TFC subset") is included, the UE shall:

- if the UE consider the TFC subset to be compatible with the current Transport format combination set:
  - restrict the transport format combination set in the uplink to the value of the IE "Transport format combination subset" (in case of TDD for the uplink CCTrCH specified by the IE "TFCS Id");
  - clear the IE "Duration" in the variable TFC_SUBSET.
- if the transport format combination subset indicates the "full transport format combination set":
  - any restriction on transport format combination set is released and the UE may use the full transport format combination set.

4.4.4.3.5 TFCS Reconfiguration/Addition Information

If the IE "TFCS Reconfiguration/Addition Information" is used in case of TFCS "Complete reconfiguration" the UE shall:

- remove the previously stored transport format combination set if exists;
- consider the first instance of the IE "CTFC information" as Transport Format Combination 0 in FDD (TFCI=0) and 1 in TDD (TFCI=1), the second instance as Transport Format Combination 1 in FDD (TFCI=1) and 2 in TDD (TFCI=2) and so on. In TDD the TFCI value = 0 is reserved for physical layer use.

If the IE "TFCS Reconfiguration/Addition Information" is used in case of TFCS "Addition" the UE shall insert the new additional(s) TFC into the first available position(s) in ascending TFCI order in the TFCS.

4.4.4.3.6 Uplink DPCH power control info

The UE shall:

- in FDD:

- if the IE "Uplink DPCH power control info" is included:
  - if a synchronization procedure A is performed according to 3GPP TS 25.322:
    - calculate and set an initial uplink transmission power;
    - start inner loop power control;
    - for the UL inner loop power control:
      - use the parameters specified in the IE.
  - else:
    - act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.

- in 1.28Mcps TDD:
  - if the IE "Uplink DPCH power control info"is included:
    - if the IE " $PRX_{PDPCHdes}$ " is included:
      - calculate and set an initial uplink transmission power.
      - if the IE " TPC step size" is included:
        - use this IE upon reception of TPC commands for closed loop power control.
      - else:
        - use the current value of this IE upon reception of TPC commands for closed loop power control.
    - else:
      - if the IE " TPC step size" is included:
        - use this IE for closed loop power control;
      - else:
        - ignore the IE "Uplink DPCH power control info".

4.4.5 RRC Messages

4.4.5.1 Specific messages for 1.28Mcps TDD

- Physical Shared Channel Allocation
- PUSCH Capacity Request
- Uplink Physical Channel Control

4.4.5.2 Specific messages for FDD

- ACTIVE SET UPDATE
- ACTIVE SET UPDATE COMPLETE
- ACTIVE SET UPDATE FAILURE

4.4.5.3 Common messages with different IEs

- CELL UPDATE

- CELL UPDATE CONFIRM
- HANDOVER TO UTRAN COMMAND
- INITIAL DIRECT TRANSFER
- INTER RAT HANDOVER INFO
- MEASUREMENT CONTROL
- MEASUREMENT REPORT
- PHYSICAL CHANNEL RECONFIGURATION
- PHYSICAL CHANNEL RECONFIGURATION COMPLETE
- RADIO BEARER RECONFIGURATION
- RADIO BEARER RECONFIGURATION COMPLETE
- RADIO BEARER RELEASE
- RADIO BEARER RELEASE COMPLETE
- RADIO BEARER SETUP
- RADIO BEARER RELEASE COMPLETE
- RRC CONNECTION SETUP
- RRC CONNECTION SETUP COMPLETE
- SYSTEM INFORMATION
- TRANSPORT CHANNEL RECONFIGURATION
- RANSPORT CHANNEL RECONFIGURATION COMPLETE
- TRANSPORT FORMAT COMBINATION CONTROL
- UE CAPABILITY ENQUIRY
- UE CAPABILITY INFORMATION
- UPLINK DIRECT TRANSFER

4.4.6 RRC Information Elements

4.4.6.1 Specific information elements for 1.28Mcps TDD

- RF capability TDD.
- Transport Format Combination Set Identity (TDD).
- Allocation period info.
- CCTrCH power control info.
- Cell and Channel Identity info.
- Downlink channelization codes.
- Downlink Timeslots and Codes.
- FPACH info.

- Individual timeslot info.
- Individual Timeslot interference.
- Midamble shift and burst type.
- PDSCH Capacity Allocation info.
- PDSCH info.
- PDSCH Power Control info.
- PDSCH system information.
- PRACH Channelization Code 1.28 Mcps TDD.
- Primary CCPCH info post.
- Primary CCPCH TX Power.
- PUSCH info.
- PUSCH Capacity Allocation info.
- PUSCH power control info.
- PUSCH system information.
- SCTD indicator.
- Special Burst Scheduling.
- SYNC_UL info.
- TDD open loop power control.
- Timeslot number.
- TSTD indicator.
- UL interference TDD.
- Uplink Timeslots and Codes.
- Uplink Timing Advance Control.
- Primary CCPCH RSCP info.
- Timeslot ISCP info.
- T_{ADV} info.

4.4.6.2 Specific information elements for FDD

- CPCH Parameters.
- Maximum bit rate.
- Transmission probability.
- RF capability FDD.
- RF capability FDD extension.
- CPCH set ID.

- DRAC Static Information.
- AICH Info.
- AICH Power offset.
- Constant value.
- CPCH persistence levels.
- CPCH set info.
- CPCH Status Indication mode.
- CSICH Power offset.
- Downlink PDSCH information.
- DPCH compressed mode info.
- PDSCH code mapping.
- PDSCH with SHO DCH Info.
- PRACH power offset.
- Primary CPICH info.
- Primary CPICH Tx power.
- Primary CPICH usage for channel estimation.
- RACH transmission parameters.
- Secondary CPICH info.
- SSDT cell identity.
- SSDT information.
- STTD indicator.
- TFCI Combining Indicator.
- TPC combination index.
- TX Diversity Mode.
- Inter-frequency SET UPDATE.
- UE Rx-Tx time difference type 1.

4.4.6.3 Common information elements with different contents

- Cell selection and re-selection info for SIB3/4.
- Cell selection and re-selection info for SIB11/12.
- Measurement capability.
- Measurement capability extension.
- Physical channel capability.
- DL Transport channel information common for all transport channels.

- Power Offset Information.
- Transport Format Set.
- UL Transport channel information common for all transport channels.
- ASC setting.
- Default DPCH Offset Value.
- Downlink DPCH info common for all RL.
- Downlink DPCH info common for all RL Pre.
- Downlink DPCH info for each RL.
- Downlink DPCH info for each RL Post.
- Downlink DPCH power control information.
- Downlink information common for all radio links.
- Downlink information for each radio link.
- Downlink information for each radio link Post.
- Frequency info.
- PICH Info.
- PRACH info (for RACH).
- PRACH system information list.
- Primary CCPCH info.
- SCCPCH Information for FACH.
- Secondary CCPCH info.
- Uplink DPCH info.
- Uplink DPCH info Post.
- Uplink DPCH info Pre.
- Uplink DPCH power control info.
- Uplink DPCH power control info Post.
- Uplink DPCH power control info Pre.
- Cell info.
- Cell measured results.
- Cell measurement event results.
- Cell reporting quantities.
- Cell synchronization information.
- FACH measurement occasion info.
- Inter-frequency measurement quantity.
- Intra-frequency measurement quantity.

- Intra-frequency measurement reporting criteria.
- Intra-frequency reporting quantity for RACH reporting.
- Measured results on RACH.
- Quality measured results list.
- Quality reporting quantity.
- UE internal measured results.
- UE internal measurement event results.
- UE internal measurement quantity.
- UE internal measurement reporting criteria.
- UE Internal reporting quantity.
- UE positioning GPS acquisition assistance.
- UE positioning GPS measured results.
- UE positioning GPS reference time.
- UE positioning IPDL parameters.
- UE positioning OTDOA measured results.
- UE positioning OTDOA neighbour cell info.
- UE positioning OTDOA reference cell info.
- UE positioning position estimate info.

4.5 Differences on Iub Interface

4.5.1 Node B logical model over Iub interface

In the view of controlling RNC, Node B logical model includes a common controlling port**,** common signalling links, a set of SAPs and dedicated signalling links, as shown in figure 4.5.1-1.

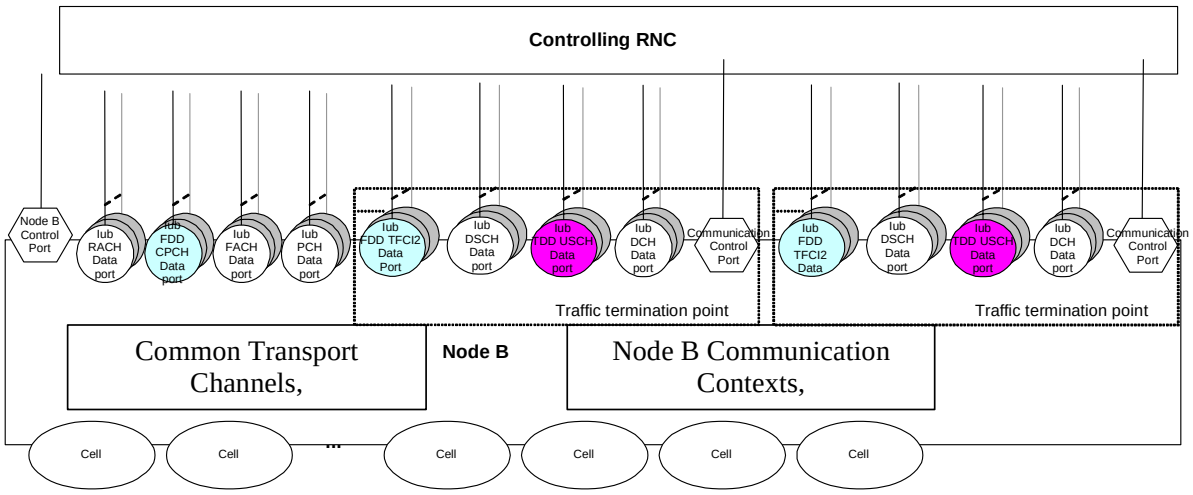


Figure 4.5.1-1: Node B logical model for Iub interface

In 1.28Mcps TDD, USCH data interface transmits data streams on USCH. DSCH is independent of DCH in 1.28Mcps TDD, while DSCH is bound with DCH in FDD.

In FDD, CPCH data interface transmits CPCH data stream between Node B and RNC. When DCH+DSCH channel allocation method is applied, TFCI2 data interface is used to transmit the data stream of control frame DSCH TFCI SIGNALLING.

4.5.2 Iub aspects of common resources

4.5.2.1 General

Iub interface performs configuration of the radio network resources, i.e. cells, shared channels and common transport channels, and takes the resources into or out of operation.

Compared with FDD, 1.28Mcps TDD differs mainly in code resource allocations, timeslot configuration, Tx diversity, physical channels configuration and transport channels configuration, etc.

4.5.2.2 Cell configuration

The procedure is initiated with a CELL SETUP REQUEST message sent from CRNC to Node B by Node B Control Port. Upon Reception, Node B shall reserve the necessary resources and configure the new cell according to the parameters given in the message.

Compared to FDD, Cell Setup procedure in 1.28Mcps TDD transfers specific parameters and configures common resource of the cell differently as follows.

- Cell Parameter ID: including SYNC-DL and SYNC-UL sequences, the scrambling codes and the midamble codes.
- The Constant Value: the power margin used by a UE to set the proper uplink power for a DCH, USCH, or a RACH.
- Timeslot Configuration: including Timeslot LCR [0...6], Timeslot Status [active or inactive] and Timeslot Direction [UL or DL].
- Transmission Diversity Applied: on DCHs applied in a cell.
- Repetition Period: the number of consecutive Radio Frames after which the same assignment scheme of Timeslots to a Physical Channel is repeated.
- Repetition Length: the number of consecutive Radio Frames inside a Repetition Period in which the same Timeslot is assigned to the same Physical Channel.
- DwPCH Information: used in the special physical channel of 1.28Mcps TDD.

4.5.2.3 Common transport channels management

Between 1.28Mcps TDD and FDD, based on the different type and structure of common physical channels and common transport channels, common transport channel setup/reconfigure procedures are with some different parameters and IEs in common messages.

CCTrCH is used in both 1.28Mcps TDD and FDD. In 1.28Mcps TDD, one CCTrCH can be mapped into one or several physical channel, while in FDD one CCTrCH can be mapped into only one physical channel.

4.5.2.4 Shared Channels

USCH is used in TDD only while CPCH is used in FDD only. DSCH is used in both TDD and FDD differently.

4.5.2.4.1 Iub aspects of USCH [TDD only]

4.5.2.4.1.1 USCH Data Transfer procedure [TDD]

Data Transfer procedure is used to transfer data received from Uu interface. It transmits the USCH DATA FRAME from Node B to CRNC.

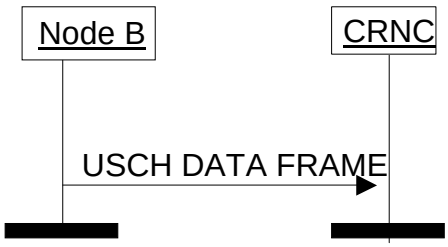


Figure 4.5.2-1: USCH Data Transfer procedure

Node B shall always send an USCH DATA FRAME to the CRNC provided the Transport Format addressed by the TFI indicates that the number of Transport Blocks is greater than 0.

When UL synchronization is lost or not yet achieved on the Uu, USCH DATA FRAMEs shall not be sent to the CRNC.

When Node B receives an invalid TFCI in the PUSCH, USCH DATA FRAMEs shall not be sent to the CRNC.

4.5.2.4.1.2 USCH DATA FRAME structure [TDD]

USCH DATA FRAME includes the CFN in which the payload was received. If the payload was received in several frames, the CFN corresponding to the first frame will be indicated.

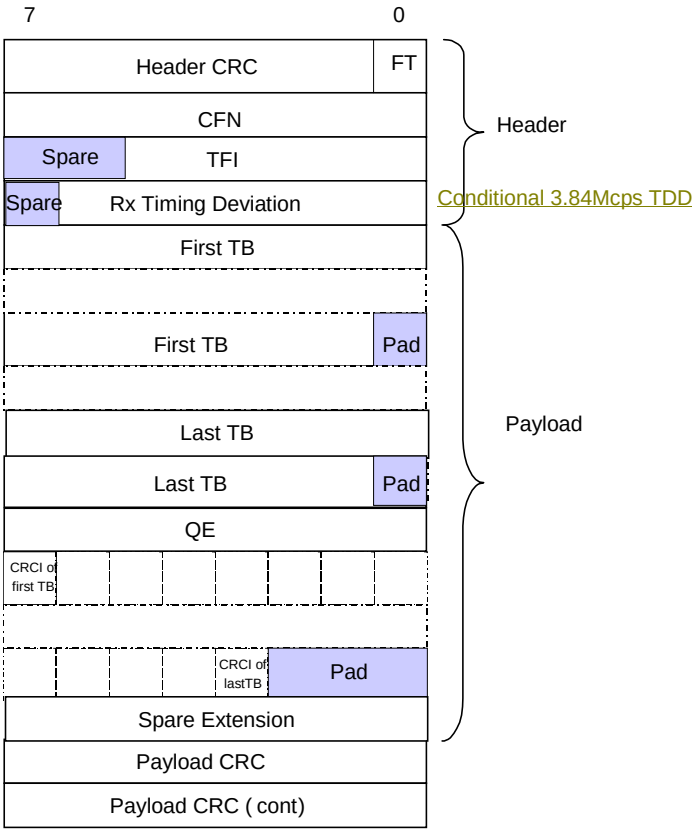


Figure 4.5.2-2: USCH DATA FRAME structure

4.5.2.4.1.3 Dynamic PUSCH Assignment procedure [TDD]

The procedure dynamically allocates the physical resources of uplink shared channels in the Node B. The control frame includes a parameter of "PUSCH Set Id" which is a pointer to a pre-configured table of PUSCH Sets in the Node B.

When this control frame is sent via a certain Iub USCH data port, it applies to that USCH and any other USCH channel multiplexed into the same CCTrCH in the Node B.

Node B behaviour: When Node B receives the "DYNAMIC PUSCH ASSIGNMENT" from the CRNC in the USCH frame protocol over an Iub USCH data port within a Traffic Termination Point, it shall:

1) extract the PUSCH Set Id.
2) extract the parameters "Activation CFN" and "Duration" which identify the allocation period of that physical channel.
3) retrieve the PUSCH Set by the PUSCH Set Id.
4) identify the CCTrCH to which the USCH is multiplexed, and hence the TFCS which is applicable for the USCH.
5) make the specified PUSCH Set available to the CCTrCH within the time interval indicated by Activation CFN and Duration.

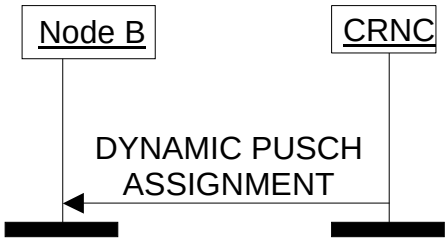


Figure 4.5.2-3: Dynamic PUSCH Assignment procedure

4.5.2.4.2 Iub aspects of DSCH

4.5.2.4.2.1 DSCH Data Transfer procedure

The Data Transfer procedure is used to transfer a DSCH DATA FRAME from the CRNC to a Node B.

If the Node B does not receive a valid DSCH DATA FRAME for transmission in a given TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the DSCH transport channel, the TFS shall never define a Transport Block Size of zero bits.

[FDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which channelization code(s) and power offset should be used in the PDSCH Uu frame associated to the specified CFN. The specified channelization code(s) and power offset shall then be used for PDSCH transmission for as long as there are data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH channelization code(s) and/or power offset should be used. This feature enables multiple DSCH's with different TTI to be supported].

[FDD - In the event that the DSCH FP header indicates that a multi-code PDSCH transmission is to be applied ('MC Info' value > 1) then the 'power offset' field indicates the power offset at which each individual code should be transmitted relative to the power of the TFCI bits of the downlink DPCCH directed to the same UE as the DSCH].

[FDD - The Node B may receive a DSCH DATA FRAME which contains a TFI value corresponding to no data to transmit. Such a DSCH DATA FRAME has no transport blocks. On receiving such a data frame the Node B shall apply the specified channelization code(s) and power offset as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B determine what channelization code(s) and power offset should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

[TDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which PDSCH Set and power offset should be used in the PDSCH Uu frames associated to the specified CFN. The specified PDSCH Set and

power offset shall then be used for DSCH transmission for as long as there is data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH Set and/or power offset should be used. This feature enables multiple DSCH's with different TTI to be supported].

[TDD - The Node B may receive a DSCH data frame which contains a TFI value corresponding to there being no data to transmit, such a DSCH DATA FRAME will have no transport blocks. On receiving such a DATA FRAME the Node B shall apply the specified PDSCH Set and power offset as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B should determine what PDSCH Set and power offset should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

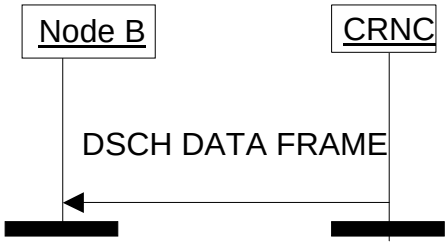


Figure 4.5.2-4: DSCH Data Transfer procedure

4.5.2.4.2.2 DSCH DATA FRAME structure

DSCH DATA FRAME includes a CFN indicating the SFN of the PDSCH in which the payload shall be sent. If the payload is to be sent over several frames, the CFN corresponding to the first frame shall be indicated.

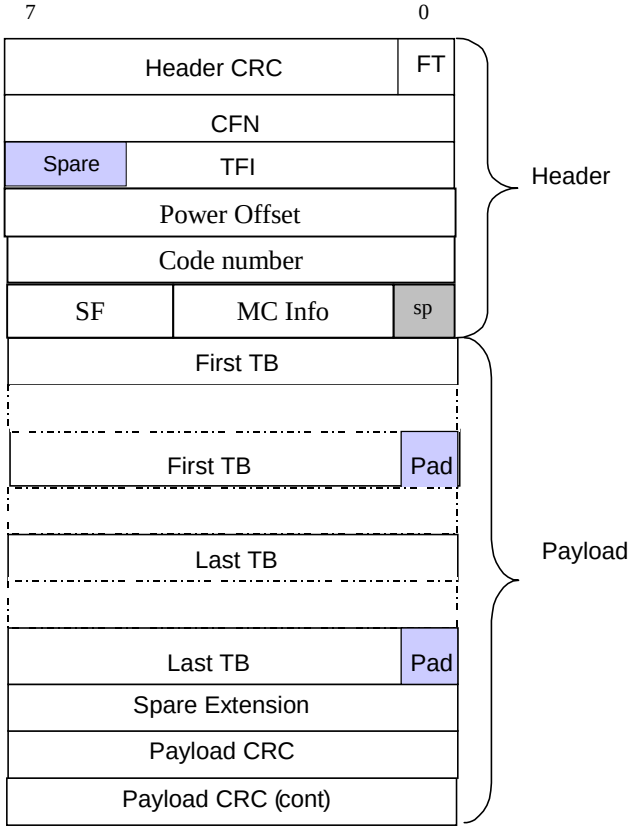


Figure 4.5.2-5: FDD DSCH DATA FRAME structure

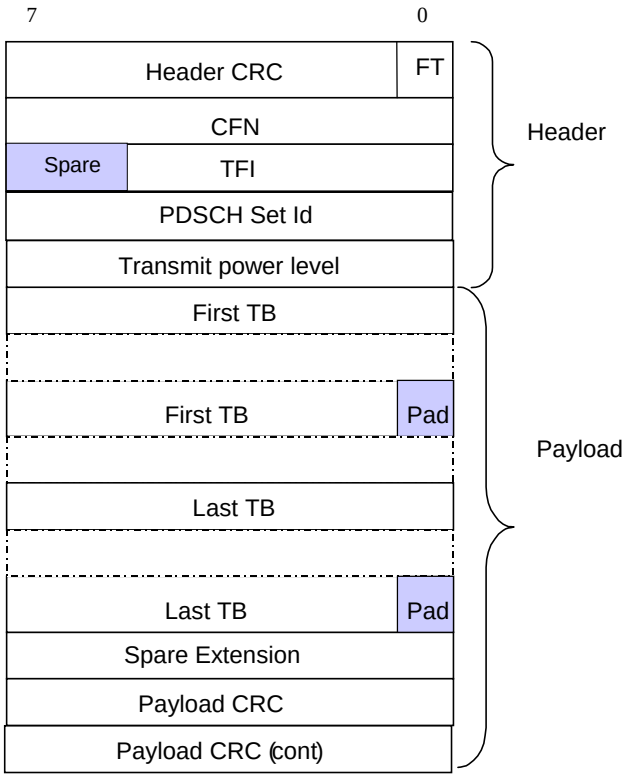


Figure 4.5.2-6: TDD DSCH DATA FRAME structure

Transmit Power Level is a conditional Information Element which is only present when the Cell supporting the DSCH Transport Channel is a TDD Cell.

4.5.3 Iub aspects of dedicated resources

Dedicated resources are allocated dynamically when every user applies RL.

Some specific IEs in 1.28Mcps TDD are as follows:

- DL DPCH information LCR.
- Special Burst Scheduling: The number of frames between special burst transmissions during DTX.
- DL Timeslot ISCP Info LCR: Providing information for DL Interference level for each timeslot within the Radio Link.

In 1.28Mcps TDD, each user uses only one radio link, while one or several radio links could be used in FDD.

4.5.4 Iub aspects of Synchronization procedure

4.5.4.1 General

Uplink synchronization is one of the characteristics of 1.28Mcps TDD. The utilization of uplink synchronization influences Iub protocol.

This aspect includes the following items:

- Synchronization Shift (SS) symbols;
  - Number of used SS symbols with 3 values ('Down', 'Up', 'Do Nothing');
  - SS symbols transmitted once per sub frame;
- Midamble.

The SS, as one of L1 signals, is to be transmitted once per 5ms sub frame in downlink. The burst type for dedicated channels provides the possibility for transmission of Uplink Synchronization Control (ULSC).The transmission of ULSC is done in the data parts of the traffic burst. The ULSC information is to be transmitted directly after the midamble.

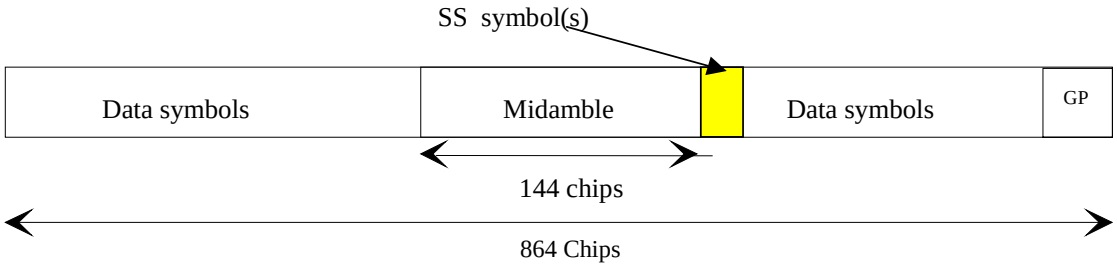


Figure 4.5.4-1: Position of ULSC information in the traffic burst

In principle, this feature replaces the "Propagation delay" function which is performed by higher layer interaction in FDD.

4.5.4.2 Establishment and Maintenance of UL Synchronization

- Step1: Preparation of uplink synchronization by downlink synchronization

When a UE is powered on, it should set downlink synchronization with the cell first as describe in cell search procedure. Only when UE sets and maintains downlink synchronization, uplink synchronization procedure could be started.

- Setp2: Establishment of uplink synchronization

Although UE can receive downlink synchronization signal via Node B, for the distance between UE and Node B is uncertain, this may cause uplink transmission un-synchronized. So, a special channel UpPCH is employed for the uplink transmission to reduce the interference in traffic timeslots.

The transmission time of SYNC_UL burst can be set according to the received DwPCH and/or P-CCPCH power level. Node B evaluates power and time of the received SYNC-UL sequence in the searching window, and then sends time and power level adjustment information to UE. Node B will send adjustment information in a single sub-frame to UE by FPACH. Normally, the uplink synchronization procedure is used for system random access, but it also can be used to rebuild uplink synchronization if it lost synchronization.

- Setp3: Maintenance of uplink synchronization

The Midamble code of every uplink burst is required for uplink synchronization maintenance. The Midamble code of each UE in uplink timeslot is different. Node B can measure and estimate the power level and time offset of midamble field in a same timeslot, and then, by using L1 signalling SS (synchronization shift) and PC (Power control), Node B informs UE to adjust its Tx timing and power level in the next available downlink timeslot. These procedures guarantee the availability of uplink synchronization. The uplink synchronization can be detected in every sub-frame, with step range of 1/8~1 chip. The operations for uplink synchronization can be '1 step up', '1 step down' or 'no update'.

4.5.5 Iub aspects of Power Control

4.5.5.1 General

The power control procedure controls the level of the transmitted power in order to minimize interference and keep the quality of the connection. It consists of the following functions: UL Outer Loop Power Control, DL Outer Loop Power Control, UL Inner Loop Power Control, DL Inner Loop Power Control and UL Open Loop Power Control.

For 1.28Mcps TDD and FDD, the power control procedures involve different measurement parameters and TPC information.

4.5.5.2 Transmission of TPC

In 1.28Mcps TDD, the TPC command is assigned by CCTrCH, other than by DPCCH in FDD.

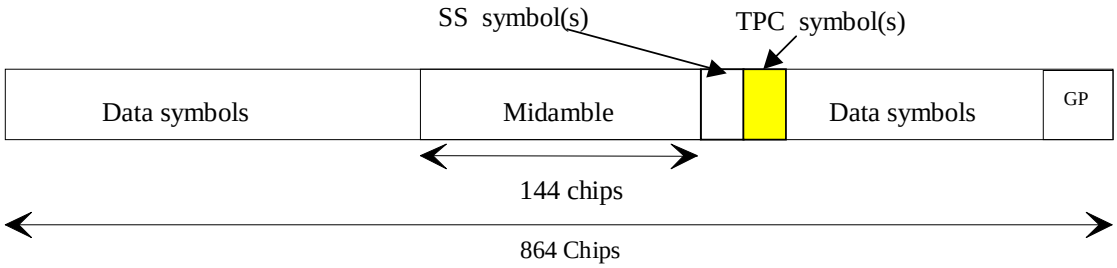


Figure 4.5.5-1: Position of TPC information in the traffic burst in downlink and uplink

4.5.5.3 Power Control characteristics

The main characteristics of power control are summarized in the following table.

Table 4.5.5-1: Transmit Power Control characteristics

	Uplink	Downlink
Power control rate	Variable Closed loop: 0 to 200 cycles/s. Open loop: (about 200 µs to 3 575 µs delay)	Variable Closed loop: 0 to 200 cycles/s.
Step size	1 dB, 2 dB, 3 dB (close loop)	1 dB, 2 dB, 3 dB (close loop)
Remarks	All figures do not include processing and measurement times	
NOTE: All codes within one timeslot allocated to the same CCTrCH use the same transmission power because they have the same Spreading Factor.		

4.5.5.4 Measurement of Downlink Power Control for 1.28Mcps TDD

If a downlink transmission pauses on the DPCH or PDSCH, the receive power (RSCP) of the data can no longer be used for inner loop SIR calculations in the UE. In this case the UE should trace the fluctuations of the pathloss based on the P-CCPCH and use these values instead for generating the TPC commands. This pathloss together with the timeslot ISCP measurement in the data timeslot, which is ongoing, should be used to calculate a virtual SIR value:

$$SIR_{virt}(i) = RSCP_{virt}(i) - ISCP(i),$$

$$RSCP_{virt}(i) = RSCP_0 + L_0 - L(i) + \sum_{k=1}^{i-1} TPC(k),$$

RSCP: Received signal code power in dBm.

ISCP: Interference signal code power in the DPCH / PDSCH timeslot in dBm.

L: pathloss in dB measured on the P-CCPCH. The same weighting of the long- and short-term pathloss should be used as for uplink open loop power control, see clause A.1.

i: index for the frames during a transmission pause, $1 \leq i \leq$ number of frames in the pause.

L_0: weighted pathloss in the last frame before the transmission pause in dB.

$RSCP_0$: RSCP of the data that was used in the SIR calculation of the last frame before the pause in dBm.

TPC (k): ± power control stepsize in dB according to the TPC bit generated and transmitted in frame k, TPC bit "up" = +stepsize, TPC bit "down" = -stepsize.

4.5.6 Iub aspects of Measurements

4.5.6.1 General

In Iub interface, physical layer measurements (in Node B) are initiated and controlled by higher layers (in RNC), so measurements are performed in Node B and reported to RNC and the measurement results can be used by RNC or Node B.

For 1.28Mcps TDD, some measurements are added or modified to realize different procedures and functions, such as power control, uplink synchronization and dynamic channel allocation (DCA).

Table 4.5.6-1: measurement types compared 1.28Mcps TDD to FDD

Types of measurements	1.28Mcps TDD	FDD
Received Total Wide Band Power	X	X
Transmitted Carrier Power	X	X
Acknowledged PRACH Preambles	-	X
UL Timeslot ISCP	X	-
Acknowledged PCPCH Access Preambles,	-	X
Detected PCPCH Access Preambles	-	X
UTRAN GPS Timing of Cell Frames for UE Positioning	X	X
SFN-SFN Observed Time Difference	X	X
SIR	X	X
SIR Error	-	X
Transmitted Code Power	X	x
RSCP	x	-
Rx Timing Deviation	-	-
Round Trip Time	-	X
Timeslot ISCP	X	-
Transport channel BER	X	X
Cell Sync Burst Timing	X	-
Cell Sync Burst SIR	X	-
Received SYNC_UL Timing Deviation for 1.28 Mcps TDD	X	-
Physical channel BER	-	X
PRACH/PCPCH Propagation delay	-	X
Note: "X": available "-": not available.		

4.5.6.2 Measurement related to DCA

Based on the timeslot structure, DCA technology is used in 1.28Mcps TDD, including fast DCA and slow DCA. Slow DCA is the process of assigning radio resources, including timeslots, to different TDD cells according to the varying cell load. In order to realize DCA, a specific measurement of "Timeslot ISCP" is added in Iub interface.

4.5.6.3 Measurement related to RACH

Random assess procedure of 1.28Mcps TDD, which has Uplink synchronization first, is different from that of FDD. In Iub interface, different propagation delay measurements are expected.

Table 4.5.6-2: Received SYNC-UL Timing Deviation for 1.28Mcps TDD

Definition	'Received SYNC-UL Timing Deviation' is the time difference: $UpPCH_{POS} = UpPTS_{Rxpath} - UpPTS_{TS}$ Where $UpPTS_{Rxpath}$: time of the reception in the Node B of the SYNC-UL to be used in the uplink synchronization process $UpPTS_{TS}$: time instance two symbols prior to the end of the DwPCH according to the Node B internal timing UE can calculate Round Trip Time (RTT) towards the UTRAN after the reception of the FPACH containing $UpPCH_{POS}$ transmitted from the UTRAN. Round Trip Time RTT is defined by: $RTT = UpPCH_{AVD} + UpPCH_{POS} – 8*16\ T_C$ Where $UpPCH_{ADV}$: the amount of time by which the transmission of UpPCH is advanced in time relative to the end of the guard period according to the UE Rx timing.

Table 4.5.6-3: PRACH/PCPCH Propagation delay

Definition	Propagation delay is defined as one-way propagation delay as measured during either PRACH or PCPCH access: **PRACH:** Propagation delay = $(T_{RX} – T_{TX} – 2560)/2$, where: T_{TX} = The transmission time of AICH access slot (n-2-AICH transmission timing), where $0 \le$ (n-2-AICH Transmission Timing)$\le$14 and AICH_Transmission_Timing can have values 0 or 1. The reference point for T_{TX} shall be the Tx antenna connector. T_{RX} = The time of reception of the beginning (the first detected path, in time) of the PRACH message from the UE at PRACH access slot n. The reference point for T_{RX} shall be the Rx antenna connector. **PCPCH:** Propagation delay = $(T_{RX} - T_{TX} – (L_{pc\text{-}preamble} +1)\times2560– (k-1)\times38400)/2$, where T_{TX} = The transmission time of CD-ICH at access slot (n-2-T_{cpch}), where $0 \le$ (n-2-T_{cpch}) ≤ 14 and T_{cpch} can have values 0 or 1. The reference point for T_{TX} shall be the Tx antenna connector. T_{RX} = The time of reception of the first chip (the first detected path, in time) of the kth frame of the PCPCH message from the UE, where k $\in${1, 2,…, N_Max_frames}. The reference point for T_{RX} shall be the Rx antenna connector. N_max_frames is a higher layer parameter and defines the maximum length of the PCPCH message. The PCPCH message begins at uplink access slot (n+$L_{pc\text{-}preamble}$/2), where $0 \le (n + L_{pc\text{-}preamble}/2) \le 14$ and where $L_{pc\text{-}preamble}$ can have values 0 or 8.

4.5.7 Iub aspects of NBAP protocol

The O&M of Node B is separated in two parts: specific O&M and logical O&M. Logical O&M is the signalling associated with the control of logical resources (like cells, channels,…) owned and controlled by the RNC but physically implemented in the Node B. A number of O&M procedures physically implemented in Node B impact on the logical resources and therefore require an information exchange between RNC and Node B. All messages needed to support this information exchange are classified as Logical O&M forming an integral part of NBAP.

4.5.7.1 Different NBAP Functions/EPs/Messages

Between 1.28Mcps TDD and FDD, some NBAP functions, NBAP elementary procedures and NBAP messages are different.

Table 4.5.7-1: Different NBAP Functions/EPs/Messages

Function	Elementary Procedure(s)	Message	Response message	
			Successful	Unsuccessful
Compressed Mode Control [FDD]	Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE
	Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE
	Compressed Mode Command	COMPRESSED MODE COMMAND		
	Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE
	Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE
	Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT		
	Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCEL		
Note: This function allows the CRNC to control the usage of compressed mode in a Node B				
DL Power Drifting Correction [FDD]	Downlink Power Control	DL POWER CONTROL REQUEST		
Note: This function allows the CRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.				
Physical Shared Channel Management[TDD]	Physical Shared Channel Reconfiguration	PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST	PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE	PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE
Note: This function allows the CRNC to manage physical resources in the Node B belonging to Shared Channels (USCH/DSCH)				
DL Power Timeslot Correction [TDD]	Downlink Power Timeslot Control	DL POWER TIMESLOT CONTROL REQUEST		
Note: This function enables the Node B to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.				

4.5.7.2 Common NBAP messages with different contents

The IEs of the following NBAP messages are different resulting from the different frame structure, timeslot structure, burst type and code resource assignment in 1.28Mcps TDD and FDD system.

- CELL SETUP REQUEST.
- CELL RECONFIGURATION REQUEST.
- COMMON TRANSPORT CHANNEL SETUP REQUEST.
- COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST.
- RADIO LINK SETUP REQUEST.
- RADIO LINK SETUP RESPONSE.

- RADIO LINK SETUP FAILURE.
- RADIO LINK ADDITION REQUEST.
- RADIO LINK ADDITION RESPONSE.
- RADIO LINK ADDITION FAILURE.
- RADIO LINK RECONFIGURATION PREPARE.
- RADIO LINK RECONFIGURATION REQUEST.
- AUDIT RESPONSE.
- COMMON MEASUREMENT INITIATION REQUEST.
- COMMON MEASUREMENT INITIATION RESPONSE.
- COMMON MEASUREMENT REPORT.
- RESOURCE STATUS INDICATION.
- RADIO LINK RECONFIGURATION READY.
- DEDICATED MEASUREMENT INITIATION REQUEST.
- DEDICATED MEASUREMENT INITIATION RESPONSE.
- DEDICATED MEASUREMENT REPORT.

4.5.7.3 Specific Parameters for TDD only

In NBAP messages, the following specific parameters in TDD only have been induced.

- Block STTD Indicator ([15], subclause 9.2.3.1);
- Burst Type ([15], subclause 9.2.3.2);
- CCTrCH ID ([15], subclause 9.2.3.3);
- Cell Parameter ID ([15], subclause 9.2.3.4);
- Constant Value ([15], subclause 9.2.3.4A);
- DL Timeslot ISCP ([15], subclause 9.2.3.4B);
- DCH TDD Information ([15], subclause 9.2.3.4C);
- DCHs TDD To Modify ([15], subclause 9.2.3.4D);
- DL Timeslot Information ([15], subclause 9.2.3.4E);
- DL Timeslot ISCP Info ([15], subclause 9.2.3.4F);
- Cell Sync Burst Code [15], subclause 9.2.3.4G);
- Cell Sync Burst Code Shift ([15], subclause 9.2.3.4H);
- CSB Measurement ID ([15], subclause 9.2.3.4I);
- Cell Sync Burst Repetition Period ([15], subclause 9.2.3.4J);
- Cell Sync Burst SIR ([15], subclause 9.2.3.4K);
- Cell Sync Burst Timing ([15], subclause 9.2.3.4L);

- Cell Sync Burst Timing Threshold ([15], subclause 9.2.3.4M);
- CSB Transmission ID ([15], subclause 9.2.3.4N);
- DL Timeslot Information LCR ([15], subclause 9.2.3.4O);
- DL Timeslot ISCP Info LCR ([15], subclause 9.2.3.4P);
- DPCH ID ([15], subclause 9.2.3.5);
- DSCH TDD Information ([15], subclause 9.2.3.5A);
- DwPCH Power ([15], subclause 9.2.3.5B）;)
- Frame Adjustment Value ([15], subclause 9.2.3.5C）;
- IPDL TDD Parameter ([15], subclause 9.2.3.5D);
- Max FPACH Power ([15], subclause 9.2.3.5E);
- Max PRACH Midamble Shift ([15], subclause 9.2.3.6);
- Midamble Shift And Burst Type ([15], subclause [5], subclause 9.2.3.7);
- Midamble Shift LCR ([15], subclause 9.2.3.7A);
- Number Of cycles Per SFN Period ([15], subclause 9.2.3.7B);
- Number Of Repetitions Per Cycle Period ([15], subclause 9.2.3.7C);
- Paging Indicator Length ([15], subclause 9.2.3.8);
- PCCPCH Power ([15], subclause 9.2.3.9);
- PDSCH ID ([15], subclause 9.2.3.10);
- PDSCH Set ID ([15], subclause 9.2.3.11);
- PUSCH ID ([15], subclause 9.2.3.12);
- PUSCH Set ID ([15], subclause 9.2.3.13);
- PRACH Midamble ([15], subclause 9.2.3.14);
- Reference Clock Availability ([15], subclause 9.2.3.14A);
- Reference SFN Offset ([15], subclause 9.2.3.14B);
- Repetition Length ([15], subclause 9.2.3.15);
- Repetition Period ([15], subclause 9.2.3.16);
- SCH Timeslot ([15], subclause 9.2.3.17);
- Sync Case ([15], subclause 9.2.3.18);
- Special Burst Scheduling ([15], subclause 9.2.3.18A);
- SYNC_DL Code ID ([15], subclause 9.2.3.18B);
- Sync Frame Number ([15], subclause 9.2.3.18C);
- Synchronization Report Characteristics ([15], subclause 9.2.3.18D);
- Synchronization Report Type ([15], subclause 9.2.3.18E);
- TDD Channelization Code ([15], subclause 9.2.3.19);

- TDD Channelization Code LCR ([15], subclause 9.2.3.19a);
- TDD DPCH Offset ([15], subclause 9.2.3.19A);
- TDD DL Code Information ([15], subclause 9.2.3.19B);
- TDD DL Code Information LCR ([15], subclause 9.2.3.19C);
- TDD Physical Channel Offset ([15], subclause 9.2.3.20);
- TDD TPC DL Step Size ([15], subclause 9.2.3.21);
- TDD UL Code Information ([15], subclause 9.2.3.21A);
- TDD UL Code Information LCR ([15], subclause 9.2.3.21B);
- TFCI Coding ([15], subclause 9.2.3.22);
- Timing Adjustment Value ([15], subclause 9.2.3.22a);
- Timing Advance Applied ([15], subclause 9.2.3.22A);
- Timeslot ([15], subclause 9.2.3.23);
- Timeslot Direction ([15], subclause 9.2.3.24);
- Timeslot Direction ([15], subclause 9.2.3.24A);
- Timeslot Status ([15], subclause 9.2.3.25);
- Transmission Diversity Applied ([15], subclause 9.2.3.26);
- UL Timeslot ISCP ([15], subclause 9.2.3.26A);
- UL PhysCH SF Variation ([15], subclause 9.2.3.26B);
- UL Timeslot Information ([15], subclause 9.2.3.26C);
- UL Timeslot ISCP Info ([15], subclause 9.2.3.26D);
- UL Timeslot Information LCR ([15], subclause 9.2.3.26E);
- UL Timeslot ISCP Info LCR ([15], subclause 9.2.3.26F);
- USCH ID ([15], subclause 9.2.3.27);
- USCH Information ([15], subclause 9.2.3.28);
- USCH Information Response ([15], subclause 9.2.3.29);
- SCTD Indicator ([15], subclause 9.2.3.30).

5 Effect on 3GPP TS 34.123-1

5.1 Idle mode operations

5.1.1 In a pure 3GPP environment

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
6.1.1	**PLMN selection**					

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
6.1.1.1	PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Manual mode	X	X	Diff.	PCCPCH is measured for cell selection and reselection in 1.28Mcps TDD while CPICH is measured in FDD.	4.2.6.1 4.2.6.4
6.1.1.2	PLMN selection of "Other PLMN / access technology combinations"; Manual mode	X	X	Diff.		
6.1.1.3	PLMN selection; independence of RF level and preferred PLMN; Manual mode	X	X	Diff.		
6.1.1.4	PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Automatic mode	X	X	Diff.		
6.1.1.5	PLMN selection of "Other PLMN / access technology combinations"; Automatic mode	X	X	Diff.		
6.1.1.7	Cell reselection of ePLMN in manual mode	X	X	Diff.		
6.1.2	**Cell selection and reselection**					
6.1.2.1	Cell reselection	X	X	Diff.	PCCPCH is measured for cell selection and reselection in 1.28Mcps TDD while CPICH is measured in FDD. Cell reselection criteria for 1.28Mcps TDD and for FDD are different.	4.2.6.1 4.2.6.4
6.1.2.2	Cell reselection using Qhyst, Qoffset and Treselection	X	X	Diff.		
6.1.2.3	HCS Cell reselection	X	X	Diff.		
6.1.2.4	HCS Cell reselection using reselection timing parameters for the H criterion	X	X	Diff.		
6.1.2.5	HCS Cell reselection using reselection timing parameters for the R criterion	X	X	Diff.		
6.1.2.6	Emergency calls	X	X	Diff.		
6.1.2.7	Emergency calls; Intra-frequency cell "Not allowed"	X	X	Diff.		
6.1.2.8	Cell reselection: Equivalent PLMN	X	X	Diff.		
6.1.2.9	Cell reselection using cell status and cell reservations	X	X	Diff.		
Note: "X": available "-": not available						

5.1.2 In Multi-mode environment (2G/3G case)

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
6.2.1	**PLMN and RAT selection**					
6.2.1.1	Selection of the correct PLMN and associated RAT	X	X	Diff.	PCCPCH is measured for cell selection and reselection in 1.28Mcps TDD while CPICH is measured in FDD.	4.2.6.1 4.2.6.4
6.2.1.2	Selection of RAT for HPLMN; Manual mode	X	X	Diff.		
6.2.1.3	Selection of RAT for UPLMN; Manual mode	X	X	Diff.		
6.2.1.4	Selection of RAT for OPLMN; Manual mode	X	X	Diff.		
6.2.1.5	Selection of "Other PLMN / access technology combinations"; Manual mode	X	X	Diff.		
6.2.1.6	Selection of RAT for HPLMN; Automatic mode	X	X	Diff.		
6.2.1.7	Selection of RAT for UPLMN; Automatic mode	X	X	Diff.		
6.2.1.8	Selection of RAT for OPLMN; Automatic mode	X	X	Diff.		
6.2.1.9	Selection of "Other PLMN / access technology combinations"; Automatic mode	X	X	Diff.		
6.2.2	**Cell selection and reselection**					
6.2.2.1	Cell reselection if cell becomes barred or S<0; UTRAN to GSM	X	X	Diff.	PCCPCH is measured for cell selection and reselection in 1.28Mcps TDD while	4.2.6.1 4.2.6.4
6.2.2.2	Cell reselection if cell becomes barred or C1<0; GSM to UTRAN	X	X	Diff.		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
					CPICH is measured in FDD. Cell reselection criteria for 1.28Mcps TDD and for FDD are different.	
Note: "X": available "-": not available						

5.2 Layer 2

5.2.1 MAC

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
7.1.1	**Mapping between logical channels and transport channels**					
7.1.1.1	CCCH mapped to RACH/FACH / Invalid TCTF	X	X	Diff.	TCTF coding of BCCH and CCCH in 1.28Mcps TDD and in FDD are different.	4.3.1
7.1.1.2	DTCH or DCCH mapped to RACH/FACH / Invalid TCTF	X	X	Diff.		
7.1.1.3	DTCH or DCCH mapped to RACH/FACH / Invalid C/T Field	X	X	Same		
7.1.1.4	DTCH or DCCH mapped to RACH/FACH / Invalid UE ID Type Field	X	X	Same		
7.1.1.5	DTCH or DCCH mapped to RACH/FACH / Incorrect UE ID	X	X	Same		
7.1.1.6	DTCH or DCCH mapped to DSCH or USCH	X	X	Diff.	USCH is used only in TDD.	4.3.1
7.1.1.7	DTCH or DCCH mapped to CPCH	-	X	-	CPCH is used only in FDD.	
7.1.1.8	DTCH or DCCH mapped to DCH / Invalid C/T Field	X	X	Same		
7.1.2	**RACH/FACH procedures**					
7.1.2.1.2	Selection and control of Power Level (3.84 Mcps TDD option)	-	-	-	Only for 3.84 Mcps TDD.	
7.1.2.1.3	Selection and control of Power Level (1.28 Mcps TDD option)	X	-	-		4.3.5
7.1.2.2.2	Correct application of Dynamic Persistence (3.84 Mcps TDD Mcps option)	-	-	-	Only for 3.84 Mcps TDD.	
7.1.2.2.3	Correct application of Dynamic Persistence (1.2 Mcps TDD Mcps option)	X	-	-		4.3.5
7.1.2.3.1	Correct Selection of RACH parameters (FDD)	-	X	-		
7.1.2.3.2	Correct Selection of RACH parameters (3.84 Mcps TDD option)	-	-	-	Only for 3.84 Mcps TDD.	
7.1.2.3.3	Correct Selection of RACH parameters (1.28 Mcps TDD option)	X	-	-		4.3.5
7.1.2.4	Correct Detection and Response to FPACH (1.28 Mcps TDD option)	X	-	-		4.3.5
7.1.2.4a	Access Service class selection for RACH transmission	X	X	Diff.	System Information 6 and 'Radio Bearer Reconfiguration' message in 1.28Mcps TDD and in FDD are different.	
7.1.3	**Priority handling between data flows of one UE**					
7.1.3.1	Priority handling between data flows of one UE	X	X	Same		
7.1.3.2	TFC Selection	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
7.1.4	**Control of CPCH transmissions**					
7.1.4.1	Control of CPCH transmissions for FDD	-	X	-		
7.1.5	**HS-DSCH MAC-hs**					
7.1.5.1	MAC-hs reordering and stall avoidance	X	X	Same		
7.1.5.2	Priority queue handling	X	X	Same		
7.1.5.3	MAC-hs PDU header handling	X	X	Same		
7.1.5.4	MAC-hs retransmissions	X	X	Same		
7.1.5.5	MAC-hs reset	X	X	Same		
Note: "X": available "-": not available						

5.2.2 RLC

Void.

5.2.3 PDCP

Void

5.2.4 BMC

Void.

5.3 Radio Resource Control RRC

5.3.1 RRC Connection Management Procedure

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.1.1	**Paging**					
8.1.1.1	RRC / Paging for Connection in idle mode	X	X	Same		
8.1.1.2	RRC / Paging for Connection in connected mode (CELL_PCH)	X	X	Same		
8.1.1.3	RRC / Paging for Connection in connected mode (URA_PCH)	X	X	Same		
8.1.1.4	RRC / Paging for notification of BCCH modification in idle mode	X	X	Diff.	The parameters changed in SIB5 for 1.28Mcps TDD and for FDD are different.	4.4.6.3.18
8.1.1.5	RRC / Paging for notification of BCCH modification in connected mode (CELL_PCH)	X	X	Diff.		
8.1.1.6	RRC / Paging for notification of BCCH modification in connected mode (URA_PCH)	X	X	Diff.		
8.1.1.7	RRC / Paging for Connection in connected mode (CELL_DCH)	X	X	Same		
8.1.1.8	RRC / Paging for Connection in connected mode (CELL_FACH)	X	X	Same		
8.1.1.9	RRC / Paging for Connection in idle mode (multiple paging records)	X	X	Same		
8.1.1.10	RRC / Paging for Connection in connected mode (URA_PCH, multiple paging records)	X	X	Same		
8.1.2	**RRC Connection Establishment**					
8.1.2.1	RRC / RRC Connection Establishment	X	X	Diff.	The measurement	4.4.6.3.18

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	in CELL_DCH state: Success				quantity in SIB11 and RRC CONNECTION SETUP for 1.28Mcps TDD and for FDD are different.	
8.1.2.2	RRC / RRC Connection Establishment: Success after T300 timeout	X	X	Diff.	The settings of SIB5 for 1.28Mcps TDD and for FDD are different.	4.4.6.3.18
8.1.2.3	RRC / RRC Connection Establishment: Failure (V300 is greater than N300)	X	X	Same		
8.1.2.4	RRC / RRC Connection Establishment: Reject ("wait time" is not equal to 0)	X	X	Diff.	The cell transmission powers for 1.28Mcps TDD and for FDD are different.	5.5
8.1.2.5	RRC / RRC Connection Establishment: Reject ("wait time" is not equal to 0 and V300 is greater than N300)	X	X	Same		
8.1.2.6	RRC / RRC Connection Establishment: Reject ("wait time" is set to 0)	X	X	Same		
8.1.2.7	RRC / RRC Connection Establishment in CELL_FACH state: Success	X	X	Diff.	The IE of "Capability update requirement" in RRC CONNECTION SETUP for 1.28Mcps TDD and for FDD are different.	4.4.7.3
8.1.2.9	RRC / RRC Connection Establishment: Success after Physical channel failure and Invalid configuration	X	X	Same		
8.1.2.10	RRC / RRC connection establishment in CELL_DCH on another frequency	X	X	Diff.	The IE of "Frequency Info" in RRC CONNECTION SETUP for 1.28Mcps TDD and for FDD are different.	4.4.7.3
8.1.2.11	RRC Connection Establishment in FACH state (Frequency band modification): Success	X	X	Diff.	[1] The IE of "Capability update requirement" in RRC CONNECTION SETUP for 1.28Mcps TDD and for FDD are different. [2] The IE of "Frequency Info" in RRC CONNECTION SETUP for 1.28Mcps TDD and for FDD are different.	4.4.7.3
8.1.2.12	RRC Connection Establishment: Reject with interRATInfo is set to GSM	X	X	Same		
8.1.2.13	RRC Connection Establishment: Reject with InterRATInfo is set to GSM and selection to the designated system fails	X	X	Same		
8.1.3	**RRC Connection Release**					
8.1.3.1	RRC / RRC Connection Release in CELL_DCH state: Successful	X	X	Same		
8.1.3.2	RRC / RRC Connection Release using on DCCH in CELL_FACH state: Successful	X	X	Same		
8.1.3.3	RRC / RRC Connection Release using on CCCH in CELL_FACH state: Failure	X	X	Same		
8.1.3.4	RRC / RRC Connection Release in CELL_FACH state: Failure	X	X	Same		
8.1.3.5	RRC / RRC Connection Release in	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	CELL_FACH state: Invalid message					
8.1.3.6	RRC / RRC Connection Release in CELL_DCH state (Frequency band modification): Success	X	X	Diff.	The setting of SIB11 for 1.28Mcps TDD and for FDD are different.	4.4.6.3.18
8.1.3.7	RRC Connection Release in CELL_FACH state (Frequency band modification): Success	X	X	Diff.	The cell transmission power for 1.28Mcps TDD and for FDD are different.	5.5
8.1.3.9	RRC Connection Release in CELL_DCH state (Network Authentication Failure): Success	X	X	Diff.	The cell transmission power of for 1.28Mcps TDD and for FDD are different.	5.5
8.1.4	**Void**					
8.1.5	**UE capability**					
8.1.5.1	RRC / UE Capability in CELL_DCH state: Success	X	X	Diff.	The IE of "Capability update requirement" in UE CAPABILITY ENQUIRY for 1.28Mcps TDD and for FDD are different.	
8.1.5.2	RRC / UE Capability in CELL_DCH state: Success after T304 timeout	X	X	Diff.	The setting of CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different.	4.4.6.3.2
8.1.5.3	RRC / UE Capability in CELL_DCH state: Failure (After N304 re-transmissions)	X	X	Diff.	The setting of CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different	4.4.6.3.2
8.1.5.4	RRC / UE Capability in CELL_FACH state: Success	X	X	Same		
8.1.5.5	RRC / UE Capability in CELL_FACH state: Success after T304 timeout	X	X	Same		
8.1.5.6	UE Capability Information/ Reporting Of InterRAT Specific UE RadioAccessCapability.	X	X	Same		
8.1.6	**Direct Transfer**					
8.1.6.1	Direct Transfer in CELL_DCH state (invalid message reception and no signalling connection exists)	X	X	Same		
8.1.6.2	Direct Transfer in CELL_FACH state (invalid message reception and no signalling connection exists)	X	X	Diff.	The setting of SIB11 for 1.28Mcps TDD and for FDD are different.	4.4.6.3.18
8.1.6.3	Measurement Report on INITIAL DIRECTTRANSFER message and UPLINK DIRECT TRANSFER message	X	X	Diff.		
8.1.6.4	UPLINK Direct Transfer (RLC re-establishment)	X	X	Same		
8.1.7	**Security mode command**					
8.1.7.1	RRC / Security mode control in CELL_DCH state	X	X	Same		
8.1.7.1b	Security mode command in CELL_DCH state (PS Domain)	X	X	Same		
8.1.7.1c	Security mode control in CELL_DCH state (CN Domain switch and new keys at RRC message sequence number wrap around)	X	X	Same		
8.1.7.1d	Security mode control in CELL_DCH state interrupted by a cell update	X	X	Diff.	The setting of CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are	4.4.6.3.2

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
					different.	
8.1.7.2	RRC / Security mode control in CELL_FACH state	X	X	Same		
8.1.8	**Counter check**					
8.1.8.1	Counter check in CELL_DCH state, with symmetrical RAB	X	X	Same		
8.1.8.2	RRC / Counter check in CELL_FACH state	X	X	Same		
8.1.8.3	Counter check in CELL_DCH state, with asymmetric RAB	X	X	Same		
8.1.9	RRC / Signalling Connection Release Indication	X	X	Same		
8.1.9a	Signalling Connection Release Indication (RLC re-establishment): CS signalling connection release	X	X	Same		
8.1.9b	Signalling Connection Release Indication (RLC re-establishment): PS signalling connection release	X	X	Same		
8.1.10	**Broadcast of system information**					
8.1.10.1	Dynamic change of segmentation, concatenation & scheduling and handling of unsupported information blocks	X	X	Same		
8.1.11	RRC / Signalling Connection Release (Invalid configuration)	X	X	Same		
8.1.12	Integrity Protection	X	X	Same		
Note: "X": available "-": not available						

5.3.2 Radio Bearer Control Procedure

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.2.1	**Radio Bearer Establishment**					
8.2.1.1	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success	X	X	Diff.	The contents of RADIO BEARER SETUP for 1.28Mcps TDD and for TDD are different.	
8.2.1.3	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)	X	X	Diff.		
8.2.1.4	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (TDD) and CPICH Ec (FDD). The contents of RADIO BEARER SETUP are different too.	
8.2.1.7	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and invalid configuration)	X	X	Same		
8.2.1.8	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success	X	X	Diff.	Different reconfiguration parameters: "Primary CCPCH info" (for 1.28Mcps TDD) and "Primary CPICH info" (for FDD) are used.	
8.2.1.9	RRC / Radio Bearer Establishment for	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)					
8.2.1.10	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success	X	X	Same		
8.2.1.11	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)	X	X	Diff.	The contents of RADIO BEARER SETUP for 1.28Mcps TDD and for FDD are different.	
8.2.1.12	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)	X	X	Same		
8.2.1.13	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and reversion failure)	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec(FDD).	
8.2.1.14	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)	X	X	Diff.	Content of RADIO BEARER RECONFIGURATION And RADIO BEARER SETUP for 1.28Mcps TDD and for FDD are different.	
8.2.1.16	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Success	X	X	Same		
8.2.1.17	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Subsequently received)	X	X	Diff.	Content of RADIO BEARER SETUP for 1.28Mcps TDD and FDD are different.	
8.2.1.18	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)	X	X	Diff.		
8.2.1.22	RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec(FDD).	
8.2.1.23	RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success	X	X	Diff.	The parameters of the cell configuration are different: C P-CCPCH RSCP (1.28Mcps TDD) and PICH Ec (FDD). The contents of RADIO BEARER SETUP are different too.	
8.2.1.24	Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success	X	X	Diff.		
8.2.1.25	Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.2.1.27	Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (two radio links, start of HS-DSCH reception)	-	X	-	FFS for TDD.	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.2.1.28	Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (RB mapping for both DL DCH and HS-DSCH in cell without HS-DSCH support)	-	X	-		
8.2.1.29	Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Uplink TFCS restriction, start of HS-DSCH reception)	-	X	-		
8.2.1.30	Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, start of HS-DSCH reception)	-	X	-		
8.2.2	**Radio Bearer Reconfiguration**					
8.2.2.1	RRC / Radio Bearer Reconfiguration (Hard Handover) from CELL_DCH to CELL_DCH: Success	X	X	Diff.	The contents of RADIO BEARER RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.2.2	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)	X	X	Diff.		
8.2.2.4	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)	X	X	Diff.	The contents of CELL UPDATE CONFIRM for TDD and for FDD are different.	
8.2.2.7	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Continue and stop)	X	X	Diff.	The contents of RADIO BEARER RECONFIGURATION for TDD and for FDD are different.	
8.2.2.8	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success	X	X	Diff.		
8.2.2.9	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)	X	X	Diff.		
8.2.2.10	RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Success	X	X	Diff.		
8.2.2.11	Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)	X	X	Diff.		
8.2.2.17	RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success	X	X	Same		
8.2.2.18	RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)	X	X	Diff.	Different reconfiguration parameters "Primary CCPCH info" (for 1.28Mcps TDD) and "Primary CPICH info" (for FDD) are used.	
8.2.2.19	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)	X	X	Diff.	The contents of RADIO BEARER RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.2.23	RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success	X	X	Same		
8.2.2.26	RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Incompatible Simultaneous Reconfiguration)	X	X	Same		
8.2.2.27	Radio Bearer Reconfiguration for transition from CELL_DCH to	X	X	Diff.	The contents of RADIO BEARER	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	CELL_DCH (Frequency band modification): Success				RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.2.28	Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_FACH (Transport channel type switching with frequency band modification): Success	X	X	Diff.		
8.2.2.31	Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success	X	X	Diff.		
8.2.2.32	Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success	X	X	Diff.		
8.2.2.34	Radio Bearer Reconfiguration for transition from CELL_FACH to URA_PCH (Frequency band modification): Success	X	X	Diff.		
8.2.2.35	Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Successful channel switching with multiple PS RABs established	X	X	Diff.		
8.2.2.36	Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Start and stop of HS-DSCH reception)	-	X	-	FFS for TDD.	
8.2.2.37	Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH and from CELL_DCH to CELL_FACH: Success (start and stop of HS-DSCH reception)	-	X	-		
8.2.2.38	Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (with active HS-DSCH reception)	-	X	-		
8.2.2.39	Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, start and stop of HS-DSCH reception)	-	X	-		
8.2.2.40	Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_FACH and from CELL_FACH to CELL_DCH: Success (frequency band modification, start and stop of HS-DSCH reception)	-	X	-		
8.2.3	**Radio Bearer Release**					
8.2.3.1	Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success	X	X	Same		
8.2.3.7	Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success	X	X	Diff.	Different reconfiguration parameter: "Primary CCPCH info" (for 1.28Mcps TDD) and "Primary CPICH info" (for FDD) are used.	
8.2.3.8	Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)	X	X	Diff.	The contents of RADIO BEARER RELEASE for 1.28Mcps TDD and for FDD are different.	
8.2.3.9	Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success	X	X	Same		
8.2.3.11	Radio Bearer Release for transition from	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration)					
8.2.3.15	Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success	X	X	Same		
8.2.3.16	Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (Subsequently received)	X	X	Diff.	The contents of RADIO BEARER RELEASE for 1.28Mcps TDD and for FDD are different.	
8.2.3.17	Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)	X	X	Diff.		
8.2.3.18	Radio Bearer Release from CELL_DCH to CELL_PCH: Success	X	X	Diff.		
8.2.3.19	Radio Bearer Release from CELL_DCH to URA_PCH: Success	X	X	Diff.		
8.2.3.20	Radio Bearer Release for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success	X	X	Same		
8.2.3.21	Radio Bearer Release from CELL_DCH to CELL_PCH (Frequency band modification): Success	X	X	Same		
8.2.3.22	Radio Bearer Release for transition from CELL_FACH to CELL_PCH: Success	X	X	Same		
8.2.3.23	Radio Bearer Release for transition from CELL_FACH to URA_PCH: Success	X	X	Same		
8.2.3.24	Radio Bearer Release for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success	X	X	Same		
8.2.3.25	Radio Bearer Release for transition from CELL_DCH to URA_PCH (Frequency band modification): Success	X	X	Same		
8.2.3.26	Radio Bearer Release for transition from CELL_FACH to CELL_PCH (Frequency band modification): Success	X	X	Same		
8.2.3.27	Radio Bearer Release for transition from CELL_FACH to URA_PCH (Frequency band modification): Success	X	X	Same		
8.2.3.28	Radio Bearer Release for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success	X	X	Same		
8.2.3.29	Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Associated with signalling connection release during multi call for PS and CS services	X	X	Same		
8.2.3.30	Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (stop of HS-DSCH reception)	-	X	-	FFS for TDD.	
8.2.4	**Transport channel reconfiguration**					
8.2.4.1	Transport channel reconfiguration (Timing re- initialized hard handover with transmission rate modification) from CELL_DCH to CELL_DCH (Hard handover to same radio frequency): Success	X	X	Diff.	The contents of TRANSPORT CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.4.1a	Transport channel reconfiguration (Transmission Rate Modification) from CELL_DCH to CELL_DCH of the same cell: Success	X	X	Same		
8.2.4.3	Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
					(FDD).	
8.2.4.4	Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)	X	X	Diff.	The contents of CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different.	
8.2.4.10	Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success	X	X	Same		
8.2.4.18	Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)	X	X	Diff.	The contents of TRANSPORT CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.4.19	Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Success (Subsequently received)	X	X	Diff.		
8.2.4.24	Transport channel reconfiguration from CELL_DCH to CELL_DCH: Success with uplink transmission rate modification	X	X	Same		
8.2.4.25	Transport channel reconfiguration from CELL_FACH to CELL_DCH (Frequency band modification): Success	X	X	Same		
8.2.4.29	Transport Channel Reconfiguration for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success	X	X	Diff.	The contents of TRANSPORT CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.5	**Transport format combination control**					
8.2.5.4	Transport format combination Control in CELL_DCH: Failure (Invalid message reception and invalid configuration)	X	X	Same		
8.2.6	**Physical channel reconfiguration**					
8.2.6.1	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Success	X	X	Diff.	The contents of PHYSICAL CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.6.2	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Failure (Unsupported configuration)	X	X	Diff.		
8.2.6.5	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Failure (Incompatible simultaneous reconfiguration)	X	X	Diff.	The contents of RADIO BEARER RECONFIGURATION and PHYSICAL CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.6.6	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Failure (Invalid message reception and invalid configuration)	X	X	Diff.	The contents of PHYSICAL CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.6.7	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success	X	X	Same		
8.2.6.8	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success (Cell re-	X	X	Diff.	The contents of PHYSICAL CHANNEL	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	selection)				RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.6.9	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success	X	X	Same		
8.2.6.11	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration)	X	X	Same		
8.2.6.12	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cellupdate)	X	X	Diff.	The parameters of the cell configuration are different: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.2.6.14	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and invalid configuration)	X	X	Diff.	The contents of PHYSICAL CHANNEL RECONFIGURATION for 1.28Mcps TDD and for FDD are different.	
8.2.6.17	RRC / Physical Channel Reconfiguration from CELL_DCH to CELL_DCH (Hard Handover for code modification): Success (Subsequently received)	X	X	Diff.		
8.2.6.18	RRC / Physical Channel Reconfiguration from CELL_FACH to CELL_DCH: Success (Subsequently received)	X	X	Diff.		
8.2.6.19	RRC / Physical channel from CELL_DCH to CELL_PCH: Success	X	X	Diff.		
8.2.6.20	RRC / Physical channel from CELL_DCH to URA_PCH: Success	X	X	Diff.		
8.2.6.21	RRC / Physical channel reconfiguration for transition from CELL_FACH to URA_PCH: Success	X	X	Same		
8.2.6.22	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_PCH: Success	X	X	Same		
8.2.6.23	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing maintain): Success	X	X	Same		
8.2.6.25	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success	X	X	Same		
8.2.6.26	RRC / Physical Channel Reconfiguration from CELL_DCH to CELL_PCH (Frequency band modification): Success	X	X	Same		
8.2.6.27	RRC / Physical channel reconfiguration from CELL_FACH to CELL_PCH: Success	X	X	Same		
8.2.6.28	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Downlink channelization code modification): Success	X	X	Same		
8.2.6.29	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Compressed mode initiation): Success	X	X	Same		
8.2.6.30	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Modify active set cell):	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	Success					
8.2.6.31	RRC / Physical channel reconfiguration transition from CELL_FACH to URA_PCH: Success	X	X	Same		
8.2.6.32	RRC / Physical channel reconfiguration for transition from CELL_DCH to URA_PCH (Frequency band modification): Success	X	X	Same		
8.2.6.33	RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success	X	X	Same		
8.2.6.34	RRC / Physical channel reconfiguration from CELL_FACH to CELL_PCH (Frequency band modification): Success	X	X	Same		
8.2.6.35	RRC / Physical channel reconfiguration for transition from CELL_FACH to URA_PCH (Frequency band modification): Success	X	X	Same		
8.2.6.36	Physical channel reconfiguration for transition from CELL_FACH to CELL FACH with frequency band modification	X	X	Same		
8.2.6.37	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialized	-	X	-		
8.2.6.37a	RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialized) (1.28 Mcps TDD)	X	-	-		
8.2.6.38	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialized): Failure (Physical channel failure and reversion to old channel)	X	X	Same		
8.2.6.39	RRC / Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH (without pending of ciphering)	X	X	Same		
8.2.6.39a	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (serving HS-DSCH cell change without MAC-hs reset)	-	X	-		
8.2.6.39b	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (serving HS-DSCH cell change with MAC-hs reset)	-	X	-		
8.2.6.40	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Two radio links, change of HS-PDSCH configuration)	-	X	-		
8.2.6.41	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, signalling only)	X	X	Same		
8.2.6.42	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another	-	X	-		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	frequency, Serving HS-DSCH cell change)					
8.2.6.43	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Seamless SRNS relocation with pending of ciphering)	X	X	Same		
8.2.6.44	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Failure (Radio link failure in new configuration)	X	X	Same		
8.2.6.45	Physical Channel Reconfiguration for transition from CELL_DCH to URA_PCH: Failure (Radio link failure in old configuration)	X	X	Same		
8.2.6.46	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised. Serving HS-DSCH cell change): Failure (Physical channel failure and reversion to old channel)	-	X	-		
8.2.6.47	Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Compressed mode initiation, with active HS-DSCH reception): Success	-	X	-		
8.2.6.48	Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, serving HS-DSCH cell change, compressed mode)	-	X	-		
8.2.7	**RRC / Physical Shared Channel Allocation [TDD only]**					
8.2.8	**RRC / PUSCH capacity request [TDD only]**					
Note: "X": available "-": not available						

5.3.3 RRC Connection Mobility Procedure

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					

8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
8.3.1.2	RRC / Cell Update: cell reselection in CELL_PCH	X	X	Same		
8.3.1.3	RRC / Cell Update: periodical cell update in CELL_FACH	X	X	Diff.	Different parameter : P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.4	RRC / Cell Update: periodical cell update in CELL_PCH	X	X	Diff.		
8.3.1.5	RRC / Cell Update: UL data transmission in URA_PCH	X	X	Same		
8.3.1.6	RRC / Cell Update: UL data transmission in CELL_PCH	X	X	Same		
8.3.1.9	RRC / Cell Update: re-entering of service area after T305 expiry and being out of service area	X	X	Diff.	Different parameter : P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.10	RRC / Cell Update: expiry of T307 after T305 expiry and being out of service area	X	X	Diff.	Different parameter : P-CCPCH RSCP (TDD) and CPICH Ec (FDD).	
8.3.1.11	RRC / Cell Update: Success after T302 time-out	X	X	Same		
8.3.1.12	RRC / Cell Update: Failure (After Maximum Re-transmissions)	X	X	Same		
8.3.1.13	RRC / Cell Update: Reception of Invalid CELL UPDATE CONFIRM message	X	X	Same		
8.3.1.14	RRC / Cell Update: Incompatible simultaneous reconfiguration	X	X	Same		
8.3.1.15	RRC / Cell Update: Unrecoverable error in Acknowledged Mode RLC	X	X	Same		
8.3.1.17	RRC / Cell Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)	X	X	Same		
8.3.1.18	RRC / Cell Update: Radio Link Failure (T314>0, T315=0), CS RAB established	X	X	Diff.	[1] The IE 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 8 and 11) for FDD and TDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
					CPICH Ec(FDD).	
8.3.1.20	RRC / Cell Update: Reception of CELL UPDATE CONFIRM Message that causes invalid configuration	X	X	Same		
8.3.1.21	Cell Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list	X	X	Diff.	[1] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec(FDD). [2] The transmit power for 1.28Mcps TDD and for FDD are different. [3] System Information Block type 11 (Step 1a) for 1.28Mcps TDD and for FDD are different.	
8.3.1.22	Cell update: Restricted cell reselection to a cell belonging to forbidden LA list (Cell_FACH)	X	X	Diff.	[1] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD) [2] The transmit power for 1.28Mcps TDD and for FDD are different.	
8.3.1.23	Cell Update: HCS cell reselection in CELL_FACH	X	X	Diff.	[1] There are differences in Block type 4 and block type 11 for TDD and FDD. [2] Different parameter : CPICH Ec (FDD) and P-CCPCH RSCP (TDD).	
8.3.1.24	Cell Update: HCS cell reselection in CELL_PCH	X	X	Diff.	[1] There are differences in block type 4 and block type 11 for 1.28Mcps TDD and FDD. [2] Different	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
					parameter: P-CCPCH RSCP (TDD) and CPICH Ec (FDD). [3] The transmit power for 1.28Mcps TDD and for FDD are different.	
8.3.1.25	CELL UPDATE: Radio Link Failure (T314=0, T315=0)	X	X	Diff.	Different parameter : P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.26	Cell Update: Radio Link Failure (T314>0, T315=0), PS RAB established	X	X	Diff.	[1] The IE 'Downlink information common for all radio links' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different. [2] Different parameter: P-CCPCH RSCP (TDD) and CPICH Ec (FDD).	
8.3.1.27	Cell Update: Radio Link Failure (T314=0, T315>0), CS RAB	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.28	Cell Update: Radio Link Failure (T314=0, T315>0), PS RAB	X	X	Diff.	[1] The IE 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM for FDD and for TDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
					TDD) and CPICH Ec (FDD).	
8.3.1.29	Cell Update: Radio Link Failure (T314>0, T315>0), CS RAB	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.30	Cell Update: Radio Link Failure (T314>0, T315>0), PS RAB	X	X	Diff.	[1] The IE 'Downlink information common for all radio links' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.31	Cell Update: re-entering of service area from URA_PCH after T316 expiry but before T317 expiry	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.32	Cell Update: Transition from URA_PCH to CELL_DCH, start of HS-DSCH reception	X	X	Diff.	The IE 'Downlink information common for all radio links' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different.	
8.3.1.33	Cell Update: Transition from CELL_PCH to CELL_DCH, start of HS-DSCH reception, frequency band modification	-	X	-	Only for FDD.	
8.3.1.34	Cell Update: Transition from CELL_DCH to CELL_FACH, stop of HS-DSCH reception	X	X	Diff.	[1] RADIO BEARER SETUP for 1.28Mcps TDD and for FDD are different. [2] Different parameter: P-CCPCH	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
					RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.35	Cell Update: Transition from CELL_DCH to CELL_DCH, with active HS-DSCH reception	X	X	Diff.	[1] RADIO BEARER SETUP for 1.28Mcps TDD and for FDD are different. [2] The IE 'Downlink information common for all radio links' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different. [3] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.36	Cell Update: Transition from CELL_DCH to CELL_FACH (stop of HS-DSCH reception with frequency modification)	X	X	Diff.	[1] RADIO BEARER SETUP for 1.28Mcps TDD and for FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.1.37	Cell Update: Transition from CELL_DCH to CELL_DCH (with active HS-DSCH reception and frequency modification)	X	X	Diff.		
8.3.2	**URA Update**					
8.3.2.1	RRC / URA Update: Change of URA	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.2.2	RRC / URA Update: Periodical URA update and Reception of Invalid message	X	X	Same		
8.3.2.4	RRC / URA Update: loss of service after expiry of timers T307 after T306	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
8.3.2.5	RRC / URA Update: Success after Confirmation error of URA-ID list	X	X	Same		
8.3.2.6	RRC / URA Update: Failure (V303 is greater than N303: Confirmation error of URA-ID list)	X	X	Same		
8.3.2.7	RRC / URA Update: Success after T303 timeout	X	X	Same		
8.3.2.9	RRC / URA Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)	X	X	Same		
8.3.2.10	RRC / URA Update: Reception of URA UPDATE CONFIRM message that causes invalid configuration	X	X	Same		
8.3.2.11	URA Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list	X	X	Diff.	[1] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [2] The transmit power for 1.28Mcps TDD and for FDD are different.	
8.3.2.12	Restricted cell reselection to a cell belonging to forbidden LA list (URA_PCH)	X	X	Diff.		
8.3.2.13	URA Update: Change of URA due to HCS Cell Reselection	X	X	Diff.	[1] Block type 4 and block type 11 in 1.28Mcps TDD and in FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec(FDD). [3] The transmit power for 1.28Mcps TDD and for FDD are different.	
8.3.3	**UTRAN Mobility Information**					
8.3.3.1	UTRAN Mobility Information: Success	X	X	Same		
8.3.3.2	UTRAN Mobility Information: Failure (Invalid message reception)	X	X	Same		
8.3.3.3	UTRAN Mobility Information: Seamless SRNS relocation in CELL_DCH (without pending of ciphering)	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
8.3.4	**Active set update in soft handover (FDD)**					
8.3.4.1	Active set update in soft handover: Radio Link addition	-	X	-	Only for FDD	
8.3.4.2	Active set update in soft handover: Radio Link removal	-	X	-		
8.3.4.3	Active set update in soft handover: Combined radio link addition and removal	-	X	-		
8.3.4.4	Active set update in soft handover: Invalid Configuration	-	X	-		
8.3.4.5	Active set update in soft handover: Reception of an ACTIVE SET UPDATE message in wrong state	-	X	-		
8.3.4.7	Active set update in soft handover: Invalid Message Reception	-	X	-		
8.3.4.8	Active set update in soft handover: Radio Link addition in multiple radio link environment	-	X	-		
8.3.5	**Hard Handover**					
8.3.6	**Inter-system hard handover from GSM to UTRAN**					
8.3.7	**Inter-system hard handover from UTRAN to GSM**					
8.3.7.1	Inter system handover from UTRAN/To GSM/Speech/Success	X	X	Same		
8.3.7.2	Inter system handover from UTRAN/To GSM/Data/Same data rate/Success	X	X	Same		
8.3.7.2a	Inter system handover from UTRAN/To GSM/Data/Same data rate/Extended Rates/Success	X	X	Same		
8.3.7.3	Inter system handover from UTRAN/To GSM/Data/Data rate down grading/Success	X	X	Same		
8.3.7.3a	Inter system handover from UTRAN/To GSM/Data/Data rate down grading/Extended Rates/Success	X	X	Same		
8.3.7.4	Inter system handover from UTRAN/To GSM/Speech/Establishment/Success	X	X	Same		
8.3.7.5	Inter system handover from UTRAN/To GSM/Speech/Failure	X	X	Same		
8.3.7.6	Inter system handover from UTRAN/To	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
	GSM/Speech/Failure (L2 Establishment)					
8.3.7.7	Inter system handover from UTRAN/To GSM/Speech/Failure (L1 Synchronization)	X	X	Same		
8.3.7.8	Inter system handover from UTRAN/To GSM/Speech/Failure (Invalid Inter-RAT message)	X	X	Same		
8.3.7.9	Inter system handover from UTRAN/To GSM/Speech/Failure (Unsupported configuration)	X	X	Same		
8.3.7.10	Inter system handover from UTRAN/To GSM/Speech/Failure (Reception by UE in CELL_FACH)	X	X	Same		
8.3.7.11	Inter system handover from UTRAN/To GSM/Speech/Failure (Invalid message reception)	X	X	Same		
8.3.7.12	Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure)	X	X	Diff.	CELL UPDATE CONFIRM for 1.28Mcps TDD and for FDD are different.	
8.3.7.13	Inter system handover from UTRAN/To GSM/ success / call under establishment	X	X	Same		
8.3.7.14	Inter system handover from UTRAN/To GSM/Speech/Success (stop of HS-DSCH reception)	-	X	-	Only for FDD.	
8.3.7.15	Inter system handover from UTRAN/To GSM/Speech/Failure(stop of HS-DSCH reception)	X	X	Same		
8.3.7.16	Inter system handover from UTRAN/To GSM/Simultaneous CS and PS domain services/Success/TBF Establishment Success	X	X	Same		
8.3.8	**RRC / Inter system cell reselection to UTRAN**					
8.3.9	**RRC / Inter system cell reselection from UTRAN**					
8.3.9.1	Cell reselection if cell becomes barred or S<0; UTRAN to GPRS (CELL_FACH)	X	X	Diff.	Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD).	
8.3.9.2	Cell reselection if cell becomes barred or S<0; UTRAN to GPRS (URA_PCH)	X	X	Diff.		
8.3.9.3	Cell reselection if S<0; UTRAN to GPRS (UE in CELL_FACH fails to complete an inter-RAT cell reselection)	X	X	Diff.		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
8.3.9.4	Cell reselection if S<0; UTRAN to GPRS (UE in CELL_PCH fails to complete an inter-RAT cell reselection)	X	X	Diff.		
8.3.9.5	Successful Cell Reselection with RAU – Qoffset value modification; UTRAN to GPRS (CELL_FACH)	X	X	Diff.		
8.3.11	**Inter-RAT cell change order from UTRAN**					
8.3.11.1	Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Success	X	X	Same		
8.3.11.2	Inter-RAT cell change order from UTRAN/To GPRS/CELL_FACH/Success	X	X	Same		
8.3.11.3	Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Failure (T309 expiry)	X	X	Same		
8.3.11.4	Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Failure (Physical channel Failure and Reversion Failure)	X	X	Diff.	CELL UPDATE CONFIRM for 1.28Mcps TDD and FDD are different.	
8.3.11.5	Inter-RAT cell change order from UTRAN/To GPRS/CELL_FACH/Failure (T309 expiry)	X	X	Same		
8.3.11.6	Inter-RAT cell change order from UTRAN/To GPRS/CELL_FACH/Failure (Physical channel Failure and Reversion Failure)	X	X	Same		
8.3.11.7	Inter-RAT cell change order from UTRAN/To GPRS/ Failure (Unsupported configuration)	X	X	Same		
8.3.11.8	Inter-RAT cell change order from UTRAN/To GPRS/ Failure (Invalid Inter-RAT message)	X	X	Same		
8.3.11.9	Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Success (stop of HS-DSCH reception)	-	X	-	Only for FDD.	
8.3.11.10	Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Failure (Physical channel Failure, stop of HS-DSCH reception)	-	X	-	Only for FDD.	
8.3.11.11	Inter-RAT cell change order from UTRAN/To GPRS/CELL_FACH/No RAB established/Success	X	X	Same		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.3.1	**Cell Update**					
8.3.1.1	RRC / Cell Update: cell reselection in CELL_FACH	X	X	Diff.	[1] The IE 'Uplink DPCH info', 'Downlink information common for all radio links ' and 'Downlink information per radio link list' in CELL UPDATE CONFIRM (Step 12,17) for 1.28Mcps TDD and FDD are different. [2] Different parameter: P-CCPCH RSCP (1.28Mcps TDD) and CPICH Ec (FDD). [3] PHYSICAL CHANNEL RECONFIGURATION (Step 13 and 19) for 1.28Mcps TDD and FDD are different.	
Note: "X": available "-": not available						

5.3.4 Measurement Procedure

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.4.1	**Measurement Control and Report**					
8.4.1.1	RRC / Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state (FDD)	-	X	-	FDD only.	
8.4.1.1A	RRC / Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state (TDD)	X	-	-	TDD only.	
8.4.1.2	RRC / Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state (FDD)	-	X	-	[1] Compressed mode is not required for 1.28Mcps TDD. [2] In MEASUREMENT CONTROL 'measurement quantity for frequency quality estimate' is 'PCCPCH RSCP' for TDD while for FDD is 'CPICH RSCP'. [3] the test procedures for 1.28Mcps TDD and for FDD are different.	
8.4.1.2A	RRC / Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state (TDD)	X	-	-		
8.4.1.3	RRC / Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_FACH state (FDD)	-	X	-	[1] In System Information Block type 11 (Step 1), the report criteria is Periodical reporting criteria while for FDD the report criteria is Event	
8.4.1.3A	RRC / Measurement Control and Report: Intra-frequency measurement for transition from idle mode to	X	-	-		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	CELL_FACH state (TDD)				Trigger Reporting Mode. [2] In System Information Block type 11 'measurement quantity' for TDD is 'PCCPCH RSCP' while for FDD is 'CPICH RSCP'. [3] The downlink power for 1.28Mvps TDD and for FDD are different.	
8.4.1.4	RRC / Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_FACH state (FDD)	-	X	-	FDD only.	
8.4.1.4A	RRC / Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_FACH state (TDD)	X	-	-	TDD only.	
8.4.1.5	RRC / Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state (FDD)	-	X	-	[1] In System Information Block type 12 and MEASUREMENT CONTROL 'measurement quantity' is 'PCCPCH RSCP' used for TDD while 'CPICH RSCP' is used for FDD. [2] In MEASUREMENT CONTROL 'intra-frequency event identity' is '1g' for 1.28Mcps TDD while for FDD is '1a'. [3] The downlink power for TDD and for FDD are different. [4] the test procedures for TDD and for FDD are different.	
8.4.1.5A	RRC / Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state (TDD)	X	-	-		
8.4.1.6	RRC / Measurement Control and Report: Inter- frequency measurement for transition from CELL_DCH to CELL_FACH state (FDD)	-	X	-	[1] The compressed mode is not required for TDD. [2] In MEASUREMENT CONTROL 'measurement quantity for frequency quality estimate' is 'PCCPCH RSCP' for TDD while for FDD is 'CPICH RSCP'.	
8.4.1.6A	RRC / Measurement Control and Report: Inter- frequency measurement for transition from CELL_DCH to CELL_FACH state (TDD)	X	-	-		
8.4.1.7	RRC / Measurement Control and Report: Intra- frequency measurement for transition from CELL_FACH to CELL_DCH state (FDD)	X	-	-	[1] In System Information Block type 12 and MEASUREMENT CONTROL 'measurement quantity' is 'PCCPCH RSCP' for TDD while for FDD is 'CPICH	
8.4.1.7A	RRC / Measurement Control and Report: Intra- frequency measurement for transition from CELL_FACH to CELL_DCH state (TDD)	-	X	-		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
					RSCP'. [2] In SIB12 (step1) 'intra-frequency event identity' is '1g' for TDD while for FDD is '1e'. [3] In MEASUREMENT CONTROL (Step 5,10,17) the report criteria is Periodical reporting criteria for TDD while the report criteria for FDD is Event Trigger Reporting Mode. [4] In SIB12 (step 21) 'intra-frequency event identity' is '1g' for TDD while for FDD is '1a'. [5] there are more MEASUREMENT REPORT for TDD. [6] The downlink power for TDD and for FDD are different. [7] the test procedure for TDD and for FDD are different.	
8.4.1.8	RRC / Measurement Control and Report: Inter- frequency measurement for transition from CELL_FACH to CELL_DCH state (FDD)	-	X	-	[1] The compressed mode is not required for TDD. [2] In MEASUREMENT CONTROL 'measurement quantity for frequency quality estimate' is 'PCCPCH RSCP' for TDD while for FDD is 'CPICH RSCP'. [3] the test procedure for TDD and for FDD are different.	
8.4.1.8A	RRC / Measurement Control and Report: Inter- frequency measurement for transition from CELL_FACH to CELL_DCH state (TDD)	X	-	-		
8.4.1.9	RRC / Measurement Control and Report: Unsupported measurement in the UE	X	X	Diff.	[1] The IE of "CHOICE mode" in MEASUREMENT CONTROL and MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.10	RRC / Measurement Control and Report: Failure (Invalid Message Reception)	X	X	Diff.		
8.4.1.13	RRC / Measurement Control and Report: Compressed Mode Configuration Failure during physical channel reconfiguration procedure	-	X	-		
8.4.1.14	RRC / Measurement Control and Report: Cell forbidden to affect reporting range	-	X	-		
8.4.1.15	RRC / Measurement Control and Report Incomplete	X	X	Diff.	The measurement parameter in MEASUREMENT CONTROL for TDD and for FDD are different.	
8.4.1.16	RRC / Measurement Control and Report: Traffic volume measurement for	X	X	Diff.	The cell info in SIB11 for TDD and for FDD	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	transition from idle mode to CELL_FACH state				in are different.	
8.4.1.17	RRC / Measurement Control and Report: Traffic volume measurement for transition from idle mode to CELL_DCH state	X	X	Diff.		
8.4.1.18	RRC / Measurement Control and Report: Traffic volume measurement for transition from CELL_FACH state to CELL_DCH state	X	X	Diff.	The RADIO BEARER RECONFIGURATION (Step 3, 11, 19, 27, and 35, Step 6, 15, 23, and 31) for TDD and for FDD are different.	
8.4.1.19	RRC / Measurement Control and Report: Traffic volume measurement for transition from CELL_DCH to CELL_FACH state	X	X	Diff.		
8.4.1.22	RRC / Measurement Control and Report: Quality measurements	X	X	Diff.	The IE of "CHOICE mode" in MEASUREMENT CONTROL and MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.23	RRC / Measurement Control and Report: Intra-frequency measurement for events 1C and 1D	-	X	-		
8.4.1.24	RRC / Measurement Control and Report: Inter-frequency measurement for event 2A	X	X	Diff.	[1] Step2 and step 3 are only used in FDD. [2] The IE of "CHOICE mode" in MEASUREMENT CONTROL and MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.25	RRC / Measurement Control and Report: Inter-frequency measurement for events 2B and 2E	X	X	Diff.	[1] Step2 and step 3 are only use in FDD. [2] The IE of "cell info" 'inter-frequency measurement quantity' and 'inter-frequency reporting quantity' in MEASUREMENT CONTROL for TDD and for FDD are different. [3] The IE of 'interFreqMeasQuantity - modeSpecificInfo' in MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.26	RRC / Measurement Control and Report: Measurement for events 2D and 2F	X	X	Diff.	[1]The IE of "cell info" 'inter-frequency measurement quantity' and 'inter-frequency reporting quantity' in MEASUREMENT CONTROL for TDD and for FDD are different. [2] The IE of "event results" in MEASUREMENT REPORT for TDD	

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
					and for FDD are different.	
8.4.1.27	RRC / Measurement Control and Report: UE internal measurement for events 6A and 6B	X	X	Diff.	[1] The IE of "UE internal measurement quantity"- 'CHOICE mode' 'UE internal reporting quantity' in MEASUREMENT CONTROL for TDD and for FDD are different. [2] The IE of "UE internal measured results"- 'CHOICE mode' in MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.28	RRC / Measurement Control and Report: UE internal measurement for events 6F and 6G	-	X	-		
8.4.1.28a	RRC / Measurement Control and Report: UE internal measurement for events 6F (1.28 Mcps TDD)	X	-	-		
8.4.1.29	RRC / Measurement Control and Report: Event based Traffic Volume measurement in CELL_FACH state	X	X	Diff.	[1] The IE of "cell info", 'intra-frequency measurement quantity ', 'intra-frequency measurement for RACH reporting', 'intra-frequency reporting quantity', 'Parameters required for each event' in SIB12 for TDD and for FDD are different. [2] The IE of "measured results on RACH" in MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.30	RRC / Measurement Control and Report: Event based Traffic Volume measurement in CELL_DCH state	X	X	Same		
8.4.1.31	RRC / Measurement Control and Report: Inter-RAT measurement in CELL_DCH state	X	X	Diff.	[1] Step2 and step 3 are only used in FDD.	
8.4.1.33	Measurement Control and Report: Inter-RAT measurement, event 3a	X	X	Diff.	[1] Step2 and step 3 are only used in FDD.	
8.4.1.34	Measurement Control and Report: Inter-RAT measurement, event 3b	X	X	Diff.	[1] Step2 and step 3 only use in FDD.	
8.4.1.35	Measurement Control and Report: Inter-RAT measurement, event 3c	X	X	Diff.	[1] Step2 and step 3 only use in FDD.	
8.4.1.36	Measurement Control and Report: Inter-RAT measurement, event 3d	X	X	Diff.	[1] Step2 and step 3 only use in FDD.	
8.4.1.37	Measurement Control and Report: UE internal measurement, event 6c	X	X	Diff.	Some details in MEASUREMENT CONTROL and MEASUREMENT REPORT for TDD and for FDD are different.	
8.4.1.38	Measurement Control and Report: UE internal measurement, event 6d	X	X	Diff.		
8.4.1.39	Measurement Control and Report: UE internal measurement, event 6e	X	X	Diff.		
8.4.1.40	Measurement Control and Report: Inter-RAT measurement event 3C in CELL_DCH state using sparse	-	X	-		

Clause in 34.123-1	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	compressed mode pattern					
8.4.1.41	Measurement Control and Report: Additional Measurements list	-	X	-		
8.4.1.42	Measurement Control and Report: Change of Compressed Mode Method	-	X	-	FDD only.	
8.4.1.43	Measurement Control and Report: Compressed Mode Reconfiguration	-	X	-	FDD only.	
8.4.1.44	RRC / Measurement Control and Report: Intra-frequency measurement for events 1H and 1I (TDD)	X	-	-	TDD only.	
8.4.1.45	RRC / Measurement Control and Report: Intra-frequency measurement for events 1G (1.28 Mcps TDD)	X	-	-	TDD only.	
Note: "X": available "-": not available						

5.4 Elementary procedures of mobility management

Void.

5.5 Circuit Switched Call Control (CC)

Void.

5.6 Session Management Procedures

Void.

5.7 Elementary procedure for Packet Switched Mobility Management

Void.

5.8 General Tests

Void.

5.9 Interoperability Radio Bearer Tests

Void.

5.10 Supplementary Services

Void.

5.11 Short message service (SMS)

Void.

5.12 Specific features

Void.

5.13 Multi-Layer Functional Tests

Void.

6 Effect on 3GPP TS 34.123-2

Each Implementation Conformance Statement (ICS) in 34-123-2 is a statement made by the supplier of an implementation or system claimed to conform to a specified testcase in 34.123-1. The differences between 1.28Mcps TDD and FDD effect on the test cases in 34.123-1 simultaneously on corresponding ICSs in 34.123-2.

7 Effect on 3GPP TS 34.123-3

7.1 Effect on ATS structure

7.1.1 Modularity

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
5.1.1	Module structure	X	X	Same		
5.1.2	Contents of the modules	X	X	Same		
5.1.3	Example of a working platform	X	X	Same		

7.2 Effect on Test method and testing architecture

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
6.1	Test method	X	X	Same		
6.2	Testing architecture	X	X	Same		
6.3	NAS test method and architecture	X	X	Same		
6.4	RRC and RAB test method and architecture	X	X	Same		
6.5	RLC test method and architecture	X	X	Same		
6.6	SMS test method and architecture	X	X	Same		
6.7	MAC test method and architecture	X	X	Same		
6.8	BMC test method and architecture	X	X	Same		
6.9	PDCP test	X	X	Same		
6.10	Multi-RAT Handover Test Model	X	X	Same		
6.11	DCH-DSCH model	X	X	Same		

7.3 Effect on PCO and ASP definitions

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
7.1	Module structure	X	X	Same		
7.2	Ut PCO and ASP definitions	X	X	Same		
7.3	**RRC PCO and ASP definitions**					
7.3.1	AM/UM/TM PCO and ASP definitions	X	X	Same		
7.3.2	**Control PCO and ASP**					
7.3.2.1	SAP and PCO for control primitives transmission and reception	X	X	Same		
7.3.2.2	**Control ASP Type Definition**					
7.3.2.2.1	CPHY_AICH_AckModeSet	-	X	-		4.2.6.7
7.3.2.2.2	CPHY_Cell_Config	X	X	Diff.	Basic cell parameters are different.	4.2.2
7.3.2.2.3	CPHY_Cell_Release	X	X	Same		
7.3.2.2.4	CPHY_Ini	X	X	Same		
7.3.2.2.5	CPHY_Cell_TxPower_Modify	X	X	Same		
7.3.2.2.6	CPHY_Frame_Number	X	X	Same		
7.3.2.2.7	CPHY_Out_of_Sync	X	X	Same		
7.3.2.2.8	CPHY_PRACH_Measurement	X	X	Same		
7.3.2.2.9	CPHY_RL_Modify	X	X	Diff.	Physical Channel parameters are different.	4.2.6
7.3.2.2.10	CPHY_RL_Release	X	X	Same		
7.3.2.2.11	CPHY_RL_Setup	X	X	Diff.	Physical Channel parameters are different.	4.2.6
7.3.2.2.12	CPHY_Sync	-	X	-		
7.3.2.2.13	CPHY_TrCH_Config	X	X	Diff.	Descriptions of TFS are different.	-
7.3.2.2.14a	CPHY_ UL_PowerModify	-	X	-	FFS For TDD.	
7.3.2.2.14	CPHY_TrCH_Release	X	X	Same		
7.3.2.2.15	CMAC_BMC_Scheduling	X	X	Same		
7.3.2.2.16	CMAC_Ciphering_Activate	X	X	Same		
7.3.2.2.17	CMAC_Config	X	X	Diff.	CPCH is not used for TDD.	4.2.6.8
7.3.2.2.18	CMAC_PAGING_Config	X	X	Same		
7.3.2.2.19	CMAC_Restriction	X	X	Same		
7.3.2.2.20	CMAC_SecurityMode_Config	X	X	Same		
7.3.2.2.21	CMAC_SequenceNumber	X	X	Same		
7.3.2.2.22	CMAC_SYSINFO_Config	X	X	Same		
7.3.2.2.22a	CRLC_Bind_TestData_TTI	X	X	Same		
7.3.2.2.23	CRLC_Ciphering_Activate	X	X	Same		
7.3.2.2.24	CRLC_Config	X	X	Same		
7.3.2.2.25	CRLC_Integrity_Activate	X	X	Same		
7.3.2.2.26	CRLC_Integrity_Failure	X	X	Same		
7.3.2.2.26a	CRLC_MAC_I_Mode	X	X	Same		
7.3.2.2.27	CRLC_Resume	X	X	Same		
7.3.2.2.27a	CRLC_RRC_MessageSN	X	X	Same		
7.3.2.2.28	CRLC_SecurityMode_Config	X	X	Same		
7.3.2.2.28a	CRLC_SetRRC_MessageSN	X	X	Same		
7.3.2.2.29	CRLC_SequenceNumber	X	X	Same		
7.3.2.2.29a	CRLC_SendContinuousData_TTI	X	X	Same		
7.3.2.2.30	CRLC_Status	X	X	Same		
7.3.2.2.31	CRLC_Suspend	X	X	Same		
7.3.2.2.32	CBMC_Config	X	X	Same		
7.3.2.2.33	RLC_TR_DATA	X	X	Same		
7.3.2.2.34	RLC_AM_DATA	X	X	Same		

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
7.3.2.2.35	RLC_UM_DATA	X	X	Same		
7.3.3	**TTCN primitives**					
7.3.3.1	UTRAN TTCN primitives	X	X	Same		
7.3.4	**GERAN PCO and ASP definitions**					
7.3.4.1	PCO Type definitions	X	X	Same		
7.3.4.2	PCO definitions	X	X	Same		
7.3.4.3	GERAN ASP Definitions	X	X	Same		
Note: "X": available "-": not available						

7.4 Effect on Design Considerations

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
8.1	Channel mapping	X	X	Diff.		4.2.6
8.2	**Channel and RB identity**					
8.2.1	Physical channels	X	X	Diff.		4.2.6
8.2.2	Transport channels	X	X	Diff.		4.2.6
8.2.3	Logical Channels	X	X	Diff.	BCCH_FACH is unique for FDD.	
8.2.4	Radio bearers	X	X	Same		
8.2.5	Scrambling and channelization codes	X	X	Diff.	Descriptions of physical channels are different.	
8.2.6	MAC-d	X	X	Same		
8.2.7	Configuration of compressed mode	-	X	-		
8.2.8	Use of U-RNTI and C-RNTI	X	X	Same		
8.3	**Channels configurations**					
8.3.1	Configuration of Cell_FACH	X	X	Diff.		
8.3.2	Configuration of Cell_DCH_StandAloneSRB	X	X	Diff.		
8.3.3	Configuration of Cell_DCH_Speech	X	X	Diff.		
8.3.4	Configuration of Cell_DCH_64kCS_RAB_SRB	X	X	Diff.		
8.3.5	Configuration of Cell_DCH_57_6kCS_RAB_SRB	X	X	Diff.		
8.3.6	Configuration of Cell_RLC_DCH_ RAB	X	X	Diff.		
8.3.7	Configuration of Cell_FACH_BMC	X				
8.3.8	Configuration of PS Cell_DCH_64kPS_RAB_SRB and Cell_PDCP_AM_RAB	X	X	Diff.		
8.3.9	Configuration of Cell_Two_DTCH	X	X	Diff.		
8.3.10	Configuration of Cell_Single_DTCH (CS)	X	X	Diff.		
8.3.11	Configuration of PS Cell_PDCP_UM_RAB	X	X	Diff.		
8.3.12	Configuration of PS Cell_PDCP_AM_UM_RAB	X	X	Diff.		
8.3.13	Configuration of Cell_2SCCPCH_BMC	X				
8.3.14	Configuration of Cell_Four_DTCH_CS_PS, Cell_Four_DTCH_PS_CS	X	X	Diff.		
8.3.15	Configuration of Cell_Two_DTCH_CS_PS, Cell_Two_DTCH_PS_CS	X	X	Diff.		
8.3.16	Configuration of Cell_Four_DTCH_CS	X	X	Diff.		
8.3.17	Configuration of Cell_DCH_MAC_SRB	X	X	Diff.		
8.3.18	Configuration of Cell_FACH_MAC_SRB	X	X	Diff.		
8.3.19	Configuration of Cell_FACH_MAC_SRB0	X	X	Diff.		
8.3.20	Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH	-	X	-		
8.3.21	Configuration of PS Cell_DCH_ 2AM_PS	X	X	Diff.		
8.3.22	Configuration of PS Cell_DCH_2_PS_Call	X	X	Diff.		
8.3.23	Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg 1	-	X	-		
8.3.24	Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg 2	-	X	-		
8.3.25	Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTC	-	X	-		

Clause in 34.123-3	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this Document
	H					
8.3.26	Configuration of PS Cell_DCH_DSCH_PS_RAB	X	X	Diff.		
8.3.27	Configuration of Cell_DCH_DSCH_CS_PS	X	X	Diff.		
8.3.28	Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a	-	X	-		
8.3.29	Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1	-	X	-		
8.3.30	Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2	-	X	-		
8.3.31	Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a	-	X	-		
8.4	**System information blocks scheduling**					
8.4.1	Grouping SIBs for testing	X	X	Same		
8.4.2	SIB configurations	X	X	Same		
8.4.3	Test SIB default schedule	X	X	Diff.	Schedules for 1.28Mcps TDD and FDD are different.	
8.4.3.1	Test SIB schedule for idle mode and measurement	X	X	Diff.	Schedules for 1.28Mcps TDD and FDD are different.	
8.4.4	Test SIB special schedule			Diff.		
8.4.4.1	Test SIB schedule for two S-CCPCH or two PRACH	X	X	Diff.		
8.4.4.2	Test SIB schedule for Inter-Rat Handover Test	X	X	Diff.		
8.5	**Security in testing**					
8.5.1	Authentication	X	X	Same		
8.5.2	Ciphering	X	X	Same		
8.5.3	Integrity	X	X	Same		
8.5.4	Test security scenarios	X	X	Same		
8.5.5	Test USIM configurations	X	X	Same		
8.6	Downlink power setting in SS	X	X	Diff.		
8.7	**Test suite operation definitions**					
8.7.1	Test suite operation definitions in the module BasicM	X	X	Same		
8.7.2	Specific test suite operation definitions for Multi RAT Handover testing	X	X	Same		
8.7.3	Specific test suite operation for Multi RAB testing	X	X	Same		
8.7.4	Specific test suite operation for InterSystem Handover testing	X	X	Same		
8.8	AT commands	X	X	Same		
8.9	Bit padding					
8.9.1	Requirements for implementation	X	X	Same		
8.10	Test PDP contexts	X	X	Same		
8.11	DCH-DSCH Configurations	X	X	Diff.		
8.12	Pre- & postambles for GERAN to UTRAN tests	X	X	Same		
Note: "X": available "-": not available						

8 Effect on 3GPP TS 34.108

8.1 Effect on Common requirements of test equipment

8.1.1 General Functional Requirements

Void.

8.1.2 Minimum performance levels

8.1.2.1 Supported Cell Configuration

8.1.2.1.1 Supported Channels

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
4.2.1.1.1 4.2.1.2.1	Logical Channels	X	X	Diff.		
4.2.1.1.2 4.2.1.2.2	Transport Channels	X	X	Diff.		4.2.8
4.2.1.1.3 4.2.1.2.4	Physical Channels	X	X	Diff.		4.2.8
4.2.1.3	Support of T_{cell} timing offset					
Note: "X": available "-": not available						

8.1.2.2 RF Performance

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
4.2.2.1	Frequency of Operation	X	X	Diff.		
4.2.2.2	Power Level Setting Accuracy	X	X	Diff.		
4.2.2.3	Uplink Power Control	X	X	Diff.		
4.2.2.4	Uplink Signal Handling	X	X	Diff.		
4.2.2.5	Uplink Sensitivity	X	X	Diff.		
Note: "X": available "-": not available						

8.1.2.3 Timers Tolerances

Void.

8.2 Reference Test Conditions

8.2.1 Test frequencies

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
5.1.1.1 5.1.1.2 5.1.1.3 5.1.1.4 5.1.2.2	reference test frequencies	X	X	Diff.		Table 8.2.1-1 Table 8.2.1-2
Note: "X": available "-": not available						

Table 8.2.1-1: 1.28Mcps TDD reference test frequencies

	Band a		Band b		Band c	
Test Frequency ID	UARFCN	Frequency (UL and DL)	UARFCN	Frequency (UL and DL)	UARFCN	Frequency (UL and DL)
Low Range	9504	1 900.8 MHz	9254	1850.8 MHz	9554	1910.8 MHz
Mid Range	9550	1 910 MHz	9400	1880 MHz	9600	1920 MHz
High Range	9596	1 919.2 MHz	9546	1909.2 MHz	9646	1929.2 MHz
Low Range	10 054	2 010.8 MHz	9654	1930.8 MHz		
Mid Range	10 087	2 017.4 MHz	9800	1960 MHz		
High Range	10 121	2 024.2 MHz	9946	1989.2 MHz		

Table 8.2.1-2: FDD reference test frequencies

Operating Band	Test Frequency ID	UARFCN	Frequency of Uplink	UARFCN	Frequency of Downlink
I	Low Range	9 613	1 922.6 MHz	10 563	2 112.6 MHz
	Mid Range	9 750	1 950.0 MHz	10 700	2 140.0 MHz
	High Range	9 887	1 977.4 MHz	10 837	2 167.4 MHz
II	Low Range	9 263	1 852.6 MHz	9 663	1 932.6 MHz
	Mid Range	9 400	1 880 MHz	9 800	1 960 MHz
	High Range	9 537	1 907.4 MHz	9 937	1 987.4 MHz
III	Low Range	8 563	1 712.6 MHz	9 038	1 807.6 MHz
	Mid Range	8 737	1 747.4 MHz	9 212	1 842.4 MHz
	High Range	8 912	1 782.4 MHz	9 387	1 877.4 MHz
IV	Low Range	812	832.5 MHz	1 037	877.5 MHz
	Mid Range	825	835.1MHz	1 050	880.1 MHz
	High Range	837	837.5 MHz	1 062	882.5 MHz

8.2.2 Radio conditions

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
5.2.2	Static Propagation Condition	X	X	Diff.		
5.2.3	Multi-Path Fading Propagation Conditions	X	X	Diff.		
5.2.4	Moving Propagation Conditions	X	X	Diff.		
5.2.5	Birth-Death propagation conditions	X	X	Diff.		
Note: "X": available "-": not available						

8.2.3 Standard test signals

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
5.3	Standard test signals	X	X	Diff.		
Note: "X": available "-": not available						

8.2.4 Signal levels

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
5.4.1	Downlink Signal Levels	X	X	Diff.		
5.4.2	Uplink Signal Levels	X	X	Diff.		
Note: "X": available "-": not available						

8.3 Reference System Configurations

8.3.1 Simulated network environment

8.3.1.1 Default Master Information Block and scheduling Block messages

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.0a.1	Grouping SIBs for testing	X	X	Same		
6.1.0a.2	SIB configurations	X	X	Same		
6.1.0a.3	SIB default schedule					
	Contents of Master Information Block PLMN type is the case of GSM-MAP	X	X	Same		
	Contents of Scheduling Block 1	X	X	Same		
6.1.0a.4	SIB special schedules					
6.1.0a.4.1	SIB schedule for two S-CCPCH or two PRACH	X	X	Diff.		
6.1.0a.4.2	SIB schedule for Inter-Rat Handover Test	X	X	Diff.	FFS	
Note: "X": available "-": not available						

8.3.1.2 Default System Information Block Messages

8.3.1.2.1 System Information Block type 1

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 1 (supported PLMN type is GSM-MAP)	X	X	Same		
Note: "X": available "-":not available						

8.3.1.2.2 System Information Block type 2

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 2	X	X	Same		
Note: "X": available "-":not available						

8.3.1.2.3 System Information Block type 3

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 3	X	X	Diff.		Table 8.3.1.2-1
Note: "X": available "-":not available						

Table 8.3.1.2-1: Contents of System Information Block type 3

IE	Parameter	
	FDD	1.28Mcps TDD
- SIB4 indicator	TRUE	
……	……	
- Cell selection and reselection quality measure	CPICH RSCP	(no data)
- CHOICE mode	FDD	TDD
- Sintrasearch	16 dB	10 dB
- Sintersearch	16 dB	10 dB
- SsearchHCS	Not Present	
- Slimit,SearchRAT	0	Not Present
- Qqualmin	-24dB	-
- Qrxlevmin	-81dBm	-103 dBm
- Qhyst1s	2 dB	0 dB
- Qhyst2s	Not Present	-
- Treselections	0 seconds	
- HCS Serving cell information	Not Present	
- Maximum allowed UL TX power	21dBm	30dBm
- Cell Access Restriction		
- Cell barred	Not barred	
- Intra-frequency cell re-selection indicator	Not present	
- T_{barred}	Not present	
- Cell Reserved for operator use	Not reserved	
- Cell Reservation Extension	Not reserved	
- Access Class Barred List		
- 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	

8.3.1.2.4 System Information Block type 4

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 4 in connected mode	X	X	Diff.	similar to SIB3	8.3.1.2.3
Note: "X": available "-":not available						

8.3.1.2.5 System Information Block type 5

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 5	X	X	Diff.		Table 8.3.1.2-2
Note: "X": available "-":not available						

Table 8.3.1.2-2: Contents of System Information Block type 5

IE	Parameter	
	FDD	1.28Mcps TDD

- SIB6 indicator	TRUE	
- PICH Power offset	-5 dB	
- CHOICE Mode	FDD	TDD
- AICH Power offset	-5 dB	-
- PUSCH system information	-	Not Present
- PDSCH system information	-	Not Present
- TDD open loop power control	-	
- Primary CCPCH Tx Power	-	30 dbm
- CHOICE TDD option	-	
-1.28Mcps TDD	-	(no data)
- Primary CCPCH info	Not Present	
- CHOICE *mode*	-	TDD
- CHOICE TDD option	-	1.28 Mcps TDD /REL-4/
- TSTD indicator	-	FALSE
- Cell parameters ID	-	Not Present
- Block SCTD indicator	-	FALSE
- PRACH system information list		
- PRACH system information		
- PRACH info		
- CHOICE mode	FDD	TDD
- Available Signature	'0000 0000 1111 1111'B	-
- Available SF	64	-
- Preamble scrambling code number	0	-
- Puncturing Limit	1.00	-
- Available Sub Channel number	'1111 1111 1111'B	-
- CHOICE TDD option	-	1.28 Mcps TDD /REL-4/
- SYNC_UL info	-	
- SYNC_UL codes bitmap	-	"11111111"
- UL Target SIR	-	10 dB
- Power Ramping Step	-	3 dB
- Max SYNC_UL Transmissions	-	8
- Mmax	-	32
- PRACH definition	-	
- Timeslot number	-	
- CHOICE TDD option	-	1.28 Mcps TDD /REL-4/
- Timeslot number	-	1
- PRACH Channelisation Code	-	
- Channelisation Code List	-	
- Channelisation Code	-	(8/1)
- Midamble Shift and burst type	-	
- CHOICE TDD option	-	1.28 Mcps TDD /REL-4/
- Midamble Allocation Mode	-	Default midamble
- Midamble configuration	-	8
- Midamble Shift	-	Not present
- FPACH info	-	
- Timeslot number	-	6
- Channelisation code	-	(16/16)
- Midamble Shift and burst type	-	
- CHOICE TDD option	-	1.28 Mcps TDD /REL-4/
- Midamble Allocation Mode	-	Common Midamble
- Midamble configuration	-	8
- Midamble Shift	-	Not present
- WT	-	4
- Transport Channel Identity	15	15
- RACH TFS		
- CHOICE Transport channel type	Common transport channels	
- Dynamic Transport format information		
- RLC size	168	170
- Number of TB and TTI List		
- Number of Transport blocks	1	1
- CHOICE Mode	FDD	TDD
- Transmission Time Interval	-	Not Present
- CHOICE Logical Channel List	Configured	

- RLC size	360	-
- Number of TB and TTI List		-
- Number of Transport blocks	1	-
- CHOICE Mode	FDD	-
- CHOICE Logical Channel List	Configured	-
- Semi-static Transport Format information		
- Transmission time interval	20 ms	10ms
- Type of channel coding	Convolutional	
- Coding Rate	1/2	
- Rate matching attribute	150	
- CRC size	16	
- RACH TFCS		Not present
- CHOICE TFCI signalling	Normal	-
- TFCI Field 1 information		-
- CHOICE TFCS representation	Complete reconfiguration	-
- TFCS complete reconfiguration information		-
- CHOICE CTFC Size	2 bit	-
- CTFC information	0	-
- Power offset information		-
- CHOICE Gain Factors	Computed Gain Factor	-
- Reference TFC ID	0	-
- CHOICE Mode	FDD	-
- Power offset Pp-m	0 dB	-
- CTFC information	1	-
- Power offset information		-
- CHOICE Gain Factors	Signalled Gain Factor	-
- CHOICE mode	FDD	-
- Gain factor ßc	11	-
- Gain factor ßd	15	-
- Reference TFC ID	0	-
- CHOICE Mode	FDD	-
- Power offset Pp-m	0 dB	-
- PRACH partitioning		
- Access Service Class		
- ASC Setting	Not Present	-
- ASC Setting		(ASC#0)
- CHOICE mode	FDD	TDD
- Available signature Start Index	0 (ASC#1)	-
- Available signature End Index	7 (ASC#1)	-
- Assigned Sub-Channel Number	'1111'B The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.	-
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Setting	Not Present	-
- ASC Setting		(ASC#1)
- CHOICE mode	FDD	TDD
- Available signature Start Index	0 (ASC#3)	-
- Available signature End Index	7 (ASC#3)	-
- Assigned Sub-Channel Number	'1111'B The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.	-
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Setting	Not Present	-
- ASC Setting		(ASC#2)
- CHOICE mode	FDD	TDD
- Available signature Start Index	0 (ASC#5)	-

- Available signature End Index	7 (ASC#5)	-
- Assigned Sub-Channel Number	'1111'B The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.	-
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Setting	Not Present	-
- ASC Setting		(ASC#3)
- CHOICE mode	FDD	TDD
- Available signature Start Index	0 (ASC#7)	-
- Available signature End Index	7 (ASC#7)	-
- Assigned Sub-Channel Number	'1111'B The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.	-
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Settings	-	(ASC#4)
- CHOICE mode	-	TDD
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Settings	-	(ASC#5)
- CHOICE mode	-	TDD
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- ASC Settings	-	(ASC#6)
- CHOICE mode	-	TDD
- CHOICE TDD option	-	1.28 Mcps TDD
- Available SYNC_UL codes indices	-	"11111111"
- CHOICE subchannel size	-	Size1
- Available Subchannels	-	Null
- 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		Not Present
- 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)	-
- CHOICE mode	FDD	TDD (no data)
- Primary CPICH TX power	31	-
- Constant value	-10	-
- PRACH power offset		-
- Power Ramp Step	3dB	-
- Preamble Retrans Max	4	-
- RACH transmission parameters		-
- Mmax	2	-
- NB01min	3 slot	-

- NB01max	10 slot	-
- AICH info		-
- Channelisation code	3	-
- STTD indicator	FALSE	-
- AICH transmission timing	0	-
- Secondary CCPCH system information		
- Secondary CCPCH info		
- CHOICE mode	FDD	TDD
- Secondary scrambling code	Not Present	-
- STTD indicator	FALSE	-
- Spreading factor	64	-
- Code number	1	-
- Pilot symbol existence	FALSE	-
- TFCI existence	TRUE (default value)	-
- Fixed or Flexible position	Flexible (default value)	-
- Timing offset	Not Present Absence of this IE is equivalent to default value 0	-
- Offset	-	0
- Common timeslot info	-	
- 2nd interleaving mode	-	Frame
- TFCI coding	-	8bits
- Puncturing limit	-	0.64
- Repetition period	-	1
- Repetition length	-	0
- Individual timeslot info	-	
- CHOICE TDD option	-	*1.28 Mcps TDD*
- Timeslot number	-	0
- TFCI existence	-	TRUE (default value)
- Midamble Shift and burst type	-	
- CHOICE TDD option	-	1.28 Mcps TDD
- Modulation	-	QPSK
- SS-TPC Symbols	-	0bits
- Code List	-	
- Channelisation Code	-	SF16 x 2 codes x 2 timeslots
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)	
- CHOICE TFCI signalling	Normal	
- TFCI Field 1 information		
- CHOICE TFCS representation	Complete reconfiguration	Addition
- TFCS complete reconfiguration information		
- CHOICE CTFC Size	4 bit	2 (alt. 3)
- CTFC information	0	SRBs for PCCH = (TF0), (TF1) (alt. (TF0), (TF1), (TF2))
- Power offset information	Not Present	Not Present
- CTFC information	1	-
- Power offset information	Not Present	-
- CTFC information	2	-
- Power offset information	Not Present	-
- CTFC information	3	-
- Power offset information	Not Present	-
- CTFC information	4	-
- Power offset information	Not Present	-
- CTFC information	5	-
- Power offset information	Not Present	-
- CTFC information	6	-
- Power offset information	Not Present	-
- CTFC information	8	-
- Power offset information	Not Present	-
- FACH/PCH information		
- TFS	(PCH)	
- CHOICE Transport channel type	Common transport channels	
- Dynamic Transport format information	(This IE is repeated for TFI number.)	
- RLC Size	240	
- Number of TB and TTI List		

- Number of Transport blocks	0	
- Number of Transport blocks	1	-
- CHOICE Mode	FDD(no data)	TDD
- Transmission Time Interval	-	Not Present
- CHOICE Logical Channel List	ALL	
- Semi-static Transport Format information		
- Transmission time interval	10 ms	20ms
- Type of channel coding	Convolutional	
- Coding Rate	1/2	
- Rate matching attribute	230	
- CRC size	16 bit	
- Transport Channel Identity	12 (for PCH)	
- CTCH indicator	FALSE	
- TFS	(FACH)	
- CHOICE Transport channel type	Common transport channels	
- Dynamic Transport format information	(This IE is repeated for TFI number.)	
- RLC Size	168	171
- Number of TB and TTI List		
- Number of Transport blocks	0	0
- Number of Transport blocks	1	-
- Number of Transport blocks	2	-
- CHOICE Mode	FDD(no data)	TDD
- Transmission Time Interval	-	Not Present
- CHOICE Logical Channel List	ALL	ALL
- Semi-static Transport Format information		
- Transmission time interval	10 ms	20ms
- Type of channel coding	Convolutional	
- Coding Rate	1/2	
- Rate matching attribute	220	
- CRC size	16 bit	
- Transport Channel Identity	13 (for FACH)	
- CTCH indicator	FALSE	
- TFS	(FACH)	-
- CHOICE Transport channel type	Common transport channels	-
- Dynamic Transport format information		-
- RLC Size	360	-
- Number of TB and TTI List		-
- Number of Transport blocks	0	-
- Number of Transport blocks	1	-
- CHOICE Logical Channel List	ALL	-
- Semi-static Transport Format information		-
- Transmission time interval	10 ms	-
- Type of channel coding	Turbo	-
- Rate matching attribute	130	-
- CRC size	16bit	-
- Transport Channel Identity	14 (for FACH)	-
- CTCH indicator	FALSE	-
- PICH info		
- CHOICE mode	FDD	TDD
- Channelisation code	2	-
- Number of PI per frame	18	-
- STTD indicator	FALSE	-
- CHOICE *TDD option*	-	1.28 Mcps TDD
- Timeslot number	-	0
- Midamble shift and burst type	-	
- Midamble Allocation Mode	-	Default midamble
- Midamble configuration	-	8
- Midamble Shift	-	Not Present
- Channelisation code list	-	
- Channelisation code	-	(16/1)
- Channelisation code	-	(16/2)
- Repetition period/length	-	64/2
- Offset	-	0

- Paging indicator length	-	4
- N_{GAP}	-	4
- N_{PCH}	-	2
- CBS DRX Level 1 information	Not Present	

8.3.1.2.6 System Information Block type 6

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 6 in connected mode	X	X	Diff.	similar to SIB5	8.3.1.2.5
Note: "X": available "-":not available						

8.3.1.2.7 System Information Block type 7

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 7	X	X	Diff.		Table 8.3.1.2-3
Note: "X": available "-": not available						

Table 8.3.1.2-3: Contents of System Information Block type 7

IE	Parameter	
		FDD
- SIB4 indicator	TRUE	
……	……	
CHOICE Mode	FDD	TDD
- UL interference	-100dBm	-
- PRACHs listed in system information block type5		
- Dynamic persistence level	2	
- PRACHs listed in system information block type6		
- Dynamic persistence level	2	
- Expiration Time Factor	Not Present – use default value of 1	

8.3.1.2.8 System Information Block type 8, 9, 10

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 8, 9	-	X	-	This information is used for static CPCH in the cell, so this is not present.	
	Contents of System Information Block type 10	-	X	-	This information is used for DRAC, so this is not present	
Note: "X": available "-":not available						

8.3.1.2.9 System Information Block type 11

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 11	X	X	Diff.	This is the default message content of SIB 11 for cell 1	Table 8.3.1.2-4
Note: "X": available "-":not available						

Table 8.3.1.2-4: Contents of System Information Block type 11

IE	Parameter	
	FDD	1.28Mcps TDD
- SIB12 indicator	TRUE	
- FACH measurement occasion info	Not Present	
- Measurement control system information		
- Use of HCS	Not used	
- Cell selection and reselection quality measure	CPICH RSCP	(no data)
- Intra-frequency measurement system information		
- Intra-frequency measurement identity	Not Present Absence of this IE is equivalent to default value 1	
- Intra-frequency cell info list		
- CHOICE intra-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)	
- New intra-frequency cells		
- Intra-frequency cell id	1	
- Cell info		
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB	
- Reference time difference to cell	Not Present	
- Read SFN indicator	FALSE	
- CHOICE mode	FDD	TDD
- Primary CPICH info		-
- Primary scrambling code	100	-
- Primary CPICH TX power	Not Present	-
- TX Diversity indicator	FALSE	-
- Primary CCPCH info	-	
- Cell parameters ID	-	0
- Primary CCPCH TX power	-	Not Present
- Timeslot list	-	Not Present
- CHOICE TDD option	-	
- 1.28 Mcps TDD	-	
- Timeslot number	-	
- Cell Selection and Re-selection info	Not Present (The IE shall be absent as this is the serving cell)	
- Intra-frequency cell id	2	
- Cell info		
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB	
- Reference time difference to cell	Not present	
- Read SFN indicator	TRUE	FALSE
- CHOICE mode	FDD	TDD
- Primary CPICH info		-
- Primary scrambling code	150	-
- Primary CPICH TX power	Not Present	-
- TX Diversity indicator	FALSE	-
- Primary CCPCH info	-	
- Cell parameters ID	-	4
- Primary CCPCH TX power	-	Not Present
- Timeslot list	-	Not Present
- CHOICE TDD option	-	
- 1.28 Mcps TDD	-	
- Timeslot number	-	Not Present
- Cell Selection and Re-selection info	Not present For neigbouring cell, if HCS is not used and all the parameters in cell selection and re-selection info are Default value, this IE is absent.	
- Intra-frequency cell id	3	

IE	Parameter	
	FDD	**1.28Mcps TDD**
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 200(FDD) and Cell parameters Id as 8(TDD)	
- Intra-frequency cell id	7	
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 400(FDD) and Cell parameters Id as 123(TDD)	
- Intra-frequency cell id	8	
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 450(FDD) and Cell parameters Id as 127(TDD)	
- Cells for measurement	Not Present	
- Intra-frequency measurement quantity		
- Filter coefficient	Not present Absence of this IE is equivalent to the default value 0	
- CHOICE mode	FDD	TDD
- Measurement quantity list	-	
- Measurement quantity	CPICH RSCP	P-CCPCH RSCP
- Intra-frequency reporting quantity for RACH Reporting	Not Present	
- Maximum number of reported cells on RACH	Not Present	
- Reporting information for state CELL_DCH		
- Intra-frequency reporting quantity		
- Reporting quantities for active set cells		
- Cell synchronisation information reporting indicator	FALSE	TRUE
- Cell identity reporting indicator	TRUE	
- CHOICE mode	FDD	TDD
- CPICH Ec/N0 reporting indicator	FALSE	-
- CPICH RSCP reporting indicator	TRUE	-
- Timeslot ISCP reporting indicator	-	FALSE
- Proposed TSGN reporting required	-	FALSE
- P-CCPCH RSCP reporting indicator	-	TRUE
- Pathloss reporting indicator	FALSE	
- Reporting quantities for monitored set cells		
- Cell synchronisation information reporting indicator	TRUE	FALSE
- Cell identity reporting indicator	TRUE	
- CHOICE mode	FDD	TDD
- CPICH Ec/N0 reporting indicator	FALSE	-
- CPICH RSCP reporting indicator	TRUE	-
- Timeslot ISCP reporting indicator	-	FALSE
- Proposed TSGN reporting required	-	FALSE
- P-CCPCH RSCP reporting indicator	-	TRUE
- Pathloss reporting indicator	FALSE	
- Reporting quantities for detected set cells	Not Present	
- Measurement reporting mode		
- Measurement Report Transfer Mode	Acknowledged mode RLC	
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger	
- CHOICE report criteria		
- Intra-frequency measurement reporting criteria		
- Parameters required for each event	3 kinds	
- Intra-frequency event identity	1a	1g
- Triggering condition 1	Not Present	
- Triggering condition 2	Monitored set cells	-
- Reporting Range Constant	5dB	Not Present
- Cells forbidden to affect Reporting range	Not Present	
- W	1.0	Not Present
- Hysteresis	0.0	
- Threshold Used Frequency	Not Present	

IE	Parameter	
	FDD	**1.28Mcps TDD**
- Reporting deactivation threshold	2	3
- Replacement activation threshold	Not Present	
- Time to trigger	640	
- Amount of reporting	4	
- Reporting interval	4000	
- Reporting cell status		
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency	
- Maximum number of reported cells	3	
- Intra-frequency event identity	1b	-
- Triggering condition 1	Active set cells	-
- Triggering condition 2	Not Present	-
- Reporting Range Constant	5dB	-
- Cells forbidden to affect Reporting range	Not Present	-
- W	1.0	-
- Hysteresis	0.0	-
- Threshold Used Frequency	Not Present	-
- Reporting deactivation threshold	Not Present	-
- Replacement activation threshold	Not Present	-
- Time to trigger	640	-
- Amount of reporting	Not Present	-
- Reporting interval	Not Present	-
- Reporting cell status		-
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency	-
- Maximum number of reported cells	3	-
- Intra-frequency event identity	1c	-
- Triggering condition 1	Not Present	-
- Triggering condition 2	Not Present	-
- Reporting Range Constant	Not Present	-
- Cells forbidden to affect Reporting range	Not Present	-
- W	Not Present	-
- Hysteresis	0.0	-
- Threshold Used Frequency	Not Present	-
- Reporting deactivation threshold	Not Present	-
- Replacement activation threshold	3	-
- Time to trigger	640	-
- Amount of reporting	4	-
- Reporting interval	4000	-
- Reporting cell status		-
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency	-
- Maximum number of reported cells	3	-
- Inter-frequency measurement system information		
- Inter-frequency cell info list		
- CHOICE Inter-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)	
- New inter-frequency cells		
- Inter frequency cell id	4	
- Frequency info		
- CHOICE mode	FDD	TDD

IE	Parameter	
	FDD	**1.28Mcps TDD**
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101	-
- UARFCN downlink(Nd)	Reference to TS 34.108 table 6.1.2 for Cell 4	-
- UARFCN (Nt)	-	Reference to TS 34.108 table 6.1.7 for Cell 4
- Cell info		
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB	
- Reference time difference to cell	Not present	
- Read SFN indicator	FALSE	
- CHOICE mode	FDD	TDD
- Primary CPICH info		-
- Primary scrambling code	250	-
- Primary CPICH Tx power	Not present	-
- Primary CCPCH info	-	Cell parameter ID =12
- Primary CCPCH Tx power	-	Not present
- TX Diversity Indicator	FALSE	
- Cell Selection and Re-selection Info	Not present (same values as for serving cell applies)	
- Inter frequency cell id	5	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.	
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code as 300(FDD) and Cell parameter ID as 114(TDD)	
- Inter frequency cell id	6	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.	
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code as 350(FDD) and Cell parameter ID as 119(TDD)	
- Cell for measurement	Not present	
- Inter-RAT measurement system information	Not Present	
- Inter-RAT measurement system information		
- Inter-RAT cell info list		
- CHOICE *Inter-RAT cell removal*	Not Present (This IE shall be ignored by the UE for SIB11)	
- New inter-RAT cells		
- Inter-RAT cell id	9	
- CHOICE *Radio Access Technology*	GSM	
- GSM		
- Cell individual offset	0	
- Cell selection and re-selection info	Not Present	
- BSIC		

IE	Parameter	
	FDD	1.28Mcps TDD
- Base transceiver Station Identity Code (BSIC)	Reference to TS 34.108 table 6.1.10 for Cell 9	
- Band indicator	According to PICS/PIXIT	
- BCCH ARFCN	Reference to TS 34.108 table 6.1.10 for Cell 9	
- Inter-RAT cell id	10	
- CHOICE *Radio Access Technology*	GSM	
- GSM		
- Cell individual offset	0	
- Cell selection and re-selection info	Not Present	
- BSIC		
- Base transceiver Station Identity Code (BSIC)	Reference to TS 34.108 table 6.1.10 for Cell 10	
- Band indicator	According to PICS/PIXITs	
- BCCH ARFCN	Reference to TS 34.108 table 6.1.10 for Cell 10	
- Cell for measurement	Not present	
- Traffic volume measurement system information	Not Present	

8.3.1.2.10 System Information Block type 12

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 12 in connected mode	X	X	Diff.	Similar to SIB 11	8.3.1.2.9
Note: "X": available "-": not available						

8.3.1.2.11 System Information Block type 13

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 13	X	X	Same	Used when supported PLMN type is ANSI-41	
Note: "X": available "-": not available						

8.3.1.2.12 System Information Block type 16

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 16	X	X	Diff.		
Note: "X": available "-": not available						

8.3.1.2.13 System Information Block type 17

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type17	X	-			
Note: "X": available "-": not available						

8.3.1.2.14 System Information Block type 18

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of System Information Block type 18	X	X	Diff.		
Note: "X": available "-": not available						

8.3.1.3 SCCPCH configuration with Stand-alone SRB for PCCH in the first SCCPCH and Interactive/Background 32 kbps PS RAB + SRBs for CCCH/DCCH/BCCH in the second SCCPCH

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.1	Contents of System Information Block type 5	X	X	Diff.		
6.1.1	Contents of System Information Block type 6 in connected mode	X	X	Diff.		
Note: "X": available "-": not available						

8.3.1.4 SCCPCH configuration with Stand-alone SRB for PCCH in the first SCCPCH, RB for CTCH + SRBs for CCCH/BCCH in the second SCCPCH and Interactive/Background 32 kbps PS RAB + SRBs for CCCH/DCCH/BCCH in the third SCCPCH (FDD only)

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.2	Contents of System Information Block type 5	-	X			
6.1.2	Contents of System Information Block type 6 in connected mode	-	X			
Note: "X": available "-": not available						

8.3.1.5 SCCPCH configuration with Stand-alone SRB for PCCH in the first SCCPCH and Interactive/Background 32 kbps PS RAB + SRBs for CCCH/DCCH/BCCH in the second and third SCCPCHs

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Contents of Scheduling Block 1	X	X	Same		
	Contents of System Information Block type 5	X	X	Diff.		
Note: "X": available "-": not available						

8.3.1.6 Default parameters for 1 to 8 cell environments

8.3.1.6.1 Default parameters for cell No.1 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.1	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.1	X	X	Diff.		Table 8.3.1.2-4
Note: "X": available "-": not available						

8.3.1.6.2 Default parameters for cell No.2 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.2	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.2	X	X	Diff.		Table 8.3.1.6-1
Note: "X": available "-": not available						

Table 8.3.1.6-1: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	2	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 150 and cell parameter ID as 4	
- Intra-frequency cell id	1	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 100 and cell parameter ID as 0	
- Intra-frequency cell id	3	
- Cell info	Same content as specified for Intra-frequency cell id=3 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	7	
- Cell info	Same content as specified for Intra-frequency cell id=7 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	8	
- Cell info	Same content as specified for Intra-frequency cell id=8 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	11	-
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 500	-
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	4	
- Frequency info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	5	
- Frequency info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	6	
- Frequency info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
…..		
- Inter-RAT cell info list		-
….		-
- New inter-RAT cells		-
- Inter-RAT cell id	9	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=9 in SIB11 for Cell 1 in table 8.3.1.2.9	-
- Inter-RAT cell id	10	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=10 in SIB11 for Cell 1 in table 8.3.1.2.9	-

….	

8.3.1.6.3 Default parameters for cell No.3 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.3	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.3	X	X	Diff.		Table 8.3.1.6-2
Note: "X": available "-": not available						

Table 8.3.1.6-2: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	3	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 200 and cell parameter ID as 8	
- Intra-frequency cell id	1	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 100 and cell parameter ID as 0	
- Intra-frequency cell id	2	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	7	
- Cell info	Same content as specified for Intra-frequency cell id=7 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	8	
- Cell info	Same content as specified for Intra-frequency cell id=8 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	11	-
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 500	-
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	4	
- Frequency info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	5	
- Frequency info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	6	
- Frequency info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
…..		
- Inter-RAT cell info list		-
….		-
- New inter-RAT cells		-
- Inter-RAT cell id	9	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=9 in SIB11 for Cell 1 in table 8.3.1.2.9	-
- Inter-RAT cell id	10	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=10 in SIB11 for Cell 1 in table 8.3.1.2.9	-

….	

8.3.1.6.4 Default parameters for cell No.4 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.4	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.4	X	X	Diff.		Table 8.3.1.6-3
Note: "X": available "-": not available						

Table 8.3.1.6-3: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	4	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 250 and cell parameter ID(TDD) as 12	
- Intra-frequency cell id	5	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 300 and cell parameter ID(TDD) as 114	
- Intra-frequency cell id	6	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 350 and cell parameter ID(TDD) as 119	
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	1	
- Frequency info		
-CHOICE mode	FDD	TDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101	-
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 1	-
- UARFCN(Nt)	-	Reference to table 6.1.7 for Cell 4
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 100 and cell parameter ID(TDD) as 0	
- Inter frequency cell id	2	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 150 and cell parameter ID(TDD) as 4.	
- Inter frequency cell id	3	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 200 and cell parameter ID(TDD) as.8	
- Inter frequency cell id	7	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code (FDD) as 400 and cell parameter ID (TDD) as 123 .	
- Inter frequency cell id	8	

- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in sub-clause 6.1.0b with the exception that value for Primary scrambling code(FDD) as 450 and cell parameter ID (TDD) as 127.	
…..		
- Inter-RAT cell info list		-
….		-
- New inter-RAT cells		-
- Inter-RAT cell id	9	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=9 in SIB11 for Cell 1 in table 8.3.1.2.9	-
- Inter-RAT cell id	10	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=10 in SIB11 for Cell 1 in table 8.3.1.2.9	-
….		

8.3.1.6.5 Default parameters for cell No.5 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.5	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.5	X	X	Diff.		Table 8.3.1.6-4
Note: "X": available "-": not available						

Table 8.3.1.6-4: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	5	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 300 and cell parameter ID(TDD) as 114	
- Intra-frequency cell id	4	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 250 and cell parameter ID(TDD) as 12	
- Intra-frequency cell id	6	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 350 and cell parameter ID(TDD) as 119	
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	1	
- Frequency info		
-CHOICE mode	FDD	TDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101	-
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 1	-
- UARFCN(Nt)	-	Reference to table 6.1.7 for Cell 4
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 100 and cell parameter ID(TDD) as 0	
- Inter frequency cell id	2	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 150 and cell parameter ID(TDD) as 4.	
- Inter frequency cell id	3	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 200 and cell parameter ID(TDD) as.8	
- Inter frequency cell id	7	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code (FDD) as 400 and cell parameter ID (TDD) as 123 .	
- Inter frequency cell id	8	

- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in sub-clause 6.1.0b with the exception that value for Primary scrambling code(FDD) as 450 and cell parameter ID (TDD) as 127.	
…..		
- Inter-RAT cell info list		-
….		-
- New inter-RAT cells		-
- Inter-RAT cell id	9	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=9 in SIB11 for Cell 1 in table 8.3.1.2.9	-
- Inter-RAT cell id	10	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=10 in SIB11 for Cell 1 in table 8.3.1.2.9	-
….		

8.3.1.6.6 Default parameters for cell No.6 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.6	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.6	X	X	Diff.		Table 8.3.1.6-5
Note: "X": available "-": not available						

Table 8.3.1.6-5: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	6	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 350 and cell parameter ID(TDD) as 119	
- Intra-frequency cell id	4	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 250 and cell parameter ID(TDD) as 12	
- Intra-frequency cell id	5	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 300 and cell parameter ID(TDD) as 114	
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	1	
- Frequency info		
-CHOICE mode	FDD	TDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101	-
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 1	-
- UARFCN(Nt)	-	Reference to table 6.1.7 for Cell 4
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 100 and cell parameter ID(TDD) as 0	
- Inter frequency cell id	2	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 150 and cell parameter ID(TDD) as 4.	
- Inter frequency cell id	3	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code(FDD) as 200 and cell parameter ID(TDD) as.8	
- Inter frequency cell id	7	
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code (FDD) as 400 and cell parameter ID (TDD) as 123 .	
- Inter frequency cell id	8	

- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in sub-clause 6.1.0b with the exception that value for Primary scrambling code(FDD) as 450 and cell parameter ID (TDD) as 127.	
…..		
- Inter-RAT cell info list		-
….		-
- New inter-RAT cells		-
- Inter-RAT cell id	9	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=9 in SIB11 for Cell 1 in table 8.3.1.2.9	-
- Inter-RAT cell id	10	-
- CHOICE *Radio Access Technology*	GSM	-
- GSM	Same content as specified for inter-RAT cell id=10 in SIB11 for Cell 1 in table 8.3.1.2.9	-
….		

8.3.1.6.7 Default parameters for cell No.7 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.7	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.7	X	X	Diff.		Table 8.3.1.6-6
Note: "X": available "-": not available						

Table 8.3.1.6-6: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	7	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 400 and cell parameter ID as 123	
- Intra-frequency cell id	1	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 100 and cell parameter ID as 0	
- Intra-frequency cell id	2	
- Cell info	Same content as specified for Intra-frequency cell id=3 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	3	
- Cell info	Same content as specified for Intra-frequency cell id=7 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	8	
- Cell info	Same content as specified for Intra-frequency cell id=8 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	11	-
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 500	-
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	4	
- Frequency info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	5	
- Frequency info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	6	
- Frequency info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
…..		

8.3.1.6.8 Default parameters for cell No.8 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.8	X	X	Diff.		
6.1.4	Contents of System Information Block type 11 for cell No.8	X	X	Diff.		Table 8.3.1.6-7
Note: "X": available "-": not available						

Table 8.3.1.6-7: Contents of System Information Block type 11

IE	Parameter	
	1.28Mcps TDD	FDD
- Intra-frequency measurement system information		
….		
- New intra-frequency cells		
- Intra-frequency cell id	8	
- Cell info	Same content as specified for Intra-frequency cell id=1 (serving cell) in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 450 and cell parameter ID as 127	
- Intra-frequency cell id	1	
- Cell info	Same content as specified for Intra-frequency cell id=2 in SIB11 for Cell 1 in table 8.3.1.2.9 with the exception that value for Primary scrambling code as 100 and cell parameter ID as 0	
- Intra-frequency cell id	2	
- Cell info	Same content as specified for Intra-frequency cell id=3 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	3	
- Cell info	Same content as specified for Intra-frequency cell id=7 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	7	
- Cell info	Same content as specified for Intra-frequency cell id=8 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Intra-frequency cell id	11	-
- Cell info	Same content as specified for Intra-frequency cell id=2 with the exception that value for Primary scrambling code as 500	-
…..		
- Inter-frequency measurement system information		
…..		
- New inter-frequency cells		
- Inter frequency cell id	4	
- Frequency info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=4 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	5	
- Frequency info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=5 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Inter frequency cell id	6	
- Frequency info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
- Cell info	Same content as specified for Inter-frequency cell id=6 in SIB11 for Cell 1 in table 8.3.1.2.9	
…..		

8.3.1.6.9 Default parameters for cell No.9 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.9	X	X	Same		
6.1.4	Contents of System Information Block type 11 for cell No.9	X	X	Same		
Note: "X": available "-": not available						

8.3.1.6.10 Default parameters for cell No.10 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.10	X	X	Same		
6.1.4	Contents of System Information Block type 11 for cell No.10	X	X	Same		
Note: "X": available "-": not available						

8.3.1.6.11 Default parameters for cell No. 11 environments

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.1.4	Default settings for cell No.11	-	X			
6.1.4	Contents of System Information Block type 11 for cell No.11	-	X			
Note: "X": available "-": not available						

8.3.1.6.12 Default Cell parameters Two PLMN in UTRAN test scenario

Void.

8.3.1.7 Reference Radio Conditions for signalling test cases

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
	Default settings for a serving cell in a single cell environment	X	X	Diff.		Table 8.3.1.7-1
	Default settings for a serving cell and a suitable neighbour cell in a multi-cell environment	X	X	Diff.		Table 8.3.1.7-2
	Default settings for a non-suitable cell	X	X	Diff.		Table 8.3.1.c-3
	Default settings for a non-suitable "Off" cell	X	X	Diff.		Table 8.3.1.7-4
Note: "X": available "-": not available						

Table 8.3.1.7-1: Default settings for a serving cell in a single cell environment

Parameter	Unit	FDD	TDD
		Cell 1	
Cell type		Serving cell	
UTRA RF Channel Number		Channel 1	
Qqualmin	dB	-24	-
Qrxlevmin	dBm	-81	
UE_TXPWR_MAX_RACH	dBm	21	
PCCPCH RSCP	dBm	-60	

Table 8.3.1.7-2: Default settings for a serving cell and a suitable neighbour cell in a multi-cell environment

Parameter	Unit	Cell 1		Cell 2		Cell 4	
		FDD	1.28Mcps	FDD	1.28Mcps TDD	FDD	1.28Mcps TDD
Cell type		Serving cell		Suitable neighbour intra-frequency cell		Suitable neighbour inter-frequency cell	
UTRA RF Channel Number		Channel 1		Channel 1		Channel 2	
Qqualmin	dB	-24	-	-24	-	-24	-
Qrxlevmin	dBm	-81		-81			
UE_TXPWR_MAX_RACH	dBm	21		21			
CPICH Ec (see notes 1 and 2)	dBm/3.84 MHz	-60	-	-70	-	-70	-
PCCPCH RSCP	dBm	-	-60	-	-70	-	-70
NOTE 1(FDD): The power level is specified in terms of CPICH_Ec instead of CPICH_RSCP as RSCP is a receiver measurement and only CPICH_Ec can be directly controlled by the SS. NOTE 2(FDD): Both cells fulfil TS 25.304, 5.2.3.1.2 and TS 25.133, 8.1.2.2.1. NOTE3(TDD): Both cells fulfil TS 25.304, 5.2.3.1.2 and TS 25.123.							

Table 8.3.1.7-3: Default settings for a non-suitable cell

Parameter	Unit	Level	
		FDD	1.28Mcps TDD
Qqualmin	dB	-24	-
Qrxlevmin	dBm	-81	
UE_TXPWR_MAX_RACH	dBm	21	
CPICH_Ec	dBm/3.84 MHz	-90	-
PCCPCH RSCP	dBm	-	-91
NOTE 1(FDD): The power level is specified in terms of CPICH_Ec instead of CPICH_RSCP as RSCP is a receiver measurement and only CPICH_Ec can be directly controlled by the SS NOTE 2: The cell is not suitable according to TS 25.304, 5.2.3.1.2			

Table 8.3.1.7-4: Default settings for a non-suitable "Off" cell

Parameter	Unit	Level	
		FDD	1.28Mcps TDD
Qqualmin	dB	-24	-
Qrxlevmin	dBm	-81	
UE_TXPWR_MAX_RACH	dBm	21	
CPICH_Ec	dBm/3.84 MHz	≤ -122	-
PCCPCH RSCP	dBm	-	≤ -110
NOTE 1(FDD): The power level is specified in terms of CPICH_Ec instead of CPICH_RSCP as RSCP is a receiver measurement and only CPICH_Ec can be directly controlled by the SS. NOTE 2: The cell is not suitable according to TS 25.304, 5.2.3.1.2.			

8.3.2 Number of neighbour cells

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.2.1	Basic Network	X	X	Diff.		
6.2.2	Soft Handover Network (FDD)	-	X	-		
6.2.3	Hard Handover Network	X	X	Diff.		
6.2.4	'Roaming' Network	X	X	Diff.		
Note: "X": available "-": not available						

8.3.3 Cell/BS codes etc

Void.

8.3.4 Routing/location area

Void.

8.3.5 Network options settings

Void.

8.3.6 Power control mode

8.3.6.1 Downlink Power Control

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.6.1.1	Outer Loop Power Control	X	X	Diff.		
6.6.1.2	Inner Loop Power Control	X	X	Diff.		
Note: "X": available "-": not available						

8.3.6.2 Uplink Power Control

Clause in TS 34.108	Title	FDD	1.28 Mcps TDD	Different or Same	Brief Description	Reference in this document
6.6.2.1	Outer Loop Power Control	X	X	Diff.		
6.6.2.2	Inner Loop Power Control (FDD)	X	-	-		
Note: "X": available "-": not available						

8.3.7 Tx Diversity modes

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.7.1	Non-Diverse Operation	X	X	Same		
6.7.2	Diverse Operation	X	X	Diff.		Table 8.3.7-1
Note: "X": available "-": not available						

Table 8.3.7-1: Tx diversity

Tx diversity mode		FDD	1.28Mcps TDD
Open loop	TSTD	SCH	P-CCPCH, S-CCPCH, DwPCH, DPCH, PDSCH, PICH
	STTD	P-CCPCH, S-CCPCH, DPCH, PICH, AICH	-
	SCTD	-	P-CCPCH, S-CCPCH, PDSCH, PICH
Closed loop		-	DPCH, PDSCH

8.3.8 Compressed Mode Parameters

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.8.1	Single compressed mode pattern	-	X	-		
6.8.2	Multiple compressed mode patterns	-	X	-		
Note: "X": available "-": not available						

8.3.9 BCCH parameters

Void.

8.3.10 Reference Radio Bearer configurations used in Radio Bearer interoperability testing

8.3.10.1 QoS Architecture and RAB attributes

Void.

8.3.10.2 RAB and signalling RB

8.3.10.2.1 RABs and signalling RBs

Table 8.3.10.2-1: Prioritised RABs

#	Traffic class[3]	SSD[3]	Max. rate, kbps	CS/PS	Note
1	Conversational	Speech	UL:12.2 DL:12.2	CS	Both FDD and TDD
…	…	…	…	…	…
36	Interactive or Background	N/A	UL:144 DL:144	PS	Both FDD and TDD
37	Conversational	N/A	UL:42.8 DL:42.8	PS	FDD onlY
38	Conversational	Speech	UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6)	CS	FDD onlY
39	Interactive or Background	N/A	UL:64 DL:768	PS	FDD onlY

Table 8.3.10.2-2: Signalling RBs

#	Maximum rate, kbps		Logical channel		PhyCh onto which SRBs are mapped	
	FDD	1.28Mcps TDD	FDD	1.28Mcps TDD	FDD	1.28Mcps TDD
1	UL:1.7 DL:1.7		DCCH		DPCH	
2	UL:3.4 DL:3.4		DCCH		DPCH	
3	UL:13.6 DL:13.6		DCCH		DPCH	
4	DL:27.2 (alt. 40.8)	DL:27.2 (alt. 13.6)	DCCH		SCCPCH	
5	UL:16.6	UL:16.8	CCCH		PRACH	
6	DL:30.4 (alt. 45.6)	DL:32 (alt. 16)	CCCH		SCCPCH	
7	DL:33.2 (alt. 49.8)	DL:33.6 (alt. 16.8)	BCCH:		SCCPCH	
8	DL:24 (alt. 6.4)	DL:12 (alt. 8)	PCCH		SCCPCH	
9	DL: 0.15	UL:16.8	DCCH	SHCCH	DPCH	PRACH
10	-	UL:16.8	-	SHCCH	-	PRACH or PUSCH
11	-	DL:32 (alt. 16)	-	SHCCH	-	SCCPCH
12	-	DL:16	-	SHCCH	-	SCCPCH or PDSCH

8.3.10.2.2 Combinations of RABs and Signalling RBs

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
6.10.2.2	Combinations on DPCH	X	X	Diff.		Table 8.3.10.2-3
6.10.2.2	Combinations on DSCH and DPCH	-	X			
6.10.2.2	Combinations on SCCPCH	X	X	Diff.		Table 8.3.10.2-4
6.10.2.2	Combinations on PRACH	X	X	Diff.		Table 8.3.10.2-5
6.10.2.2	Combinations on DPCH and HS-PDSCH	-	X	-		
6.10.2.2	Combinations on PDSCH, SCCPCH, PUSCH and PRACH	X	-	-		
6.10.2.2	Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH	X	-	-		
6.10.2.3 6.11.5.3	Example of linkage between RABs and services	X	X	Same		
6.10.2.4 6.11.5.4	Typical radio parameter sets					
6.10.2.4.1 6.11.5.4.1	Combinations on DPCH	X	X	Diff.		
6.10.2.4.2	Combinations on PDSCH and DPCH	-	X	-		
6.10.2.4.3 6.11.5.4.4	Combinations on SCCPCH	X	X	Diff.		
6.10.2.4.4 6.11.5.4.5	Combinations on PRACH	X	X	Diff.		
6.10.2.4.5	Combinations on DPCH and HS-PDSCH	-	X	-		
6.11.5.4.2	Combinations on PDSCH, SCCPCH, PUSCH and PRACH	X	-	-		
6.11.5.4.3	Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH	X	-	Diff.		
Note: "X": available "-": not available						

Table 8.3.10.2-3: Combined on DPCH

FDD	1.28Mcps TDD
1)Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH.	
…….	…….
23d) Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI) + UL:3.4 DL:3.4 kbps SRBs for DCCH.	23d)Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.(20 msTTI)
……	……
59) Conversational / Speech / UL:42.8 DL:42.8 kbps / PS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5).	59) Reserved for future use
60) Conversational / Speech / UL:42.8 DL:42.8 kbps / PS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5).	60) Reserved for future use
61) Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH	
62) Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH (REL-5).	-
63) Interactive or background / UL:64 DL:768 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH (REL-5).	-

Table 8.3.10.2-4: Combined SCCPCH

FDD	1.28Mcps TDD
1) Stand-alone 24 kbps SRB for PCCH	1) Stand-alone 12 kbps SRB for PCCH
2) Interactive or background / DL:32 kbps / PS RAB+ SRB for CCCH+ SRBs for DCCH+ SRB for BCCH	
-	2a) Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB+ SRBs for CCCH + SRB for DCCH + SRB for BCCH
-	2b) SRBs for CCCH + SRB for DCCH+ SRB for BCCH
3) Interactive or background / DL:32 kbps / PS RAB + SRB for PCCH + SRB for CCCH+ SRBs for DCCH+ SRB for BCCH	
4) RB for CTCH+ SRB for CCCH+SRB for BCCH	

Table 8.3.10.2-5: Combined PRACH

FDD	1.28Mcps TDD
1)Interactive or background / UL:32 kbps / PS RAB + SRB for CCCH+ SRBs for DCCH	1) Interactive or background / UL:12.8 kbps / PS RAB + SRB for CCCH + SRBs for DCCH

8.4 Generic setup procedures

8.4.1 Basic Generic Procedures

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
7.1.1	UE Test States for Basic Generic Procedures	X	X	Same		
7.1.2	Mobile terminated establishment of Radio Resource Connection	X	X	Same		
7.1.3	Radio Bearer Setup Procedure	X	X	Same		
Note: "X": available "-": not available						

8.4.2 Generic setup procedures

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
7.2.1	UE Test States for Generic setup procedures	X	X	Same		
7.2.2	Registration of UE	X	X	Same		
7.2.3	Call setup	X	X	Same		
Note: "X": available "-": not available						

8.4.3 Test procedures for RF test

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
7.3.1	UE Test States for RF testing	X	X	Same		
7.3.2	Test procedure for TX, RX and Performance Requirement (without handover)					
7.3.2.1	Initial conditions	X	X	Same		
7.3.2.2	Definition of system information messages	X	X	Diff.		
7.3.2.3	Procedure	X	X	Same		
7.3.2.4	Specific message contents	X	X	Diff.		
7.3.3	Test procedure for test cases using Cell_PCH or URA_PCH state					
7.3.3.1	Initial conditions	X	X	Same		
7.3.3.2	Definition of system information messages	X	X	Diff.		
7.3.3.3	Procedure	X	X	Same		
7.3.3.4	Specific message contents	X	X	Diff.		
7.3.4	Test procedure for Handover					
7.3.4.1	Initial conditions	X	X	Same		
7.3.4.2	Definition of system information messages	X	X	Diff.		
7.3.4.3	Procedure	X	X	Same		
7.3.4.4	Specific message contents	X	X	Diff.		
7.2.5	Session setup					
7.3.5	Test procedure for test cases using CELL_FACH state					
7.3.5.1	Initial conditions	X	X	Same		
7.3.5.2	Definition of system information messages	X	X	Diff.		
7.3.5.3	Procedure	X	X	Same		
7.3.5.4	Specific message contents	X	X	Diff.		
7.3.6	Test procedure for HSDPA RF Performance Requirement					
7.3.6.1	Initial conditions	X	X	Same		
7.3.6.2	Definition of system information messages	X	X	Diff.		
7.3.6.3	Procedure	X	X	Same		
7.3.6.4	Specific message contents	X	X	Diff		
Note: "X": available "-": not available						

8.4.4 Common generic procedures for AS testing

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
7.4.1	UE RRC Test States for common procedures	X	X	Diff.		
7.4.2	Generic Setup Procedure for RRC test cases	X	X	Diff.		
Note: "X": available "-": not available						

8.5 Default Message Contents

8.5.1 Default Message Contents for Signalling

Clause in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
9.1	Contents of ACTIVE SET UPDATE message: AM	-	X	-		
9.1	Contents of ACTIVE SET UPDATE COMPLETE message: AM	-	X	-		
9.1	Contents of ACTIVE SET UPDATE FAILURE message: AM	-	X	-		
9.1	Contents of CELL UPDATE message: TM	X	X	Diff.		
9.1	Contents of CELL UPDATE CONFIRM message: UM	X	X	Diff.		
9.1	Contents of UPLINK DIRECT TRANSFER message: AM	X	X	Diff.		
9.1	Contents of DOWNLINK DIRECT TRANSFER message: AM	X	X	Same		
9.1	Contents of HANDOVER FROM UTRAN COMMAND-GSM message: AM	X	X	Diff.		
9.1	Contents of HANDOVER FROM UTRAN FAILURE message: AM	X	X	Diff.		
9.1	Contents of INITIAL DIRECT TRANSFER message: AM	X	X	Diff.		
9.1	Contents of MEASUREMENT CONTROL message: AM	X	X	Diff.		
9.1	Contents of MEASUREMENT CONTROL FAILURE message: AM	X	X	Same		
9.1	Contents of MEASUREMENT REPORT message: AM	X	X	Diff.		
9.1	Contents of PAGING TYPE 1 message: TM (Speech in CS)	X	X	Same		
9.1	Contents of PAGING TYPE 1 message: TM (The others of speech in CS)	X	X	Same		
9.1	Contents of PAGING TYPE 1 message: TM (Packet in PS)	X	X	Same		
9.1	Contents of PAGING TYPE 1 message: TM (SMS in CS)	X	X	Same		
9.1	Contents of PAGING TYPE 1 message: TM (SMS in PS)	X	X	Same		
9.1	Contents of PAGING TYPE 2 message: AM (Speech in CS)	X	X	Same		
9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION	X	X	Diff.		

	message: AM or UM					
9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM	X	X	Diff.		
9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM	X	X	Diff.		
9.1	Contents of RADIO BEARER SETUP message: AM or UM	X	X	Diff.		
9.1	Contents of RADIO BEARER SETUP COMPLETE message: AM	X	X	Diff.		
9.1	Contents of RADIO BEARER SETUP FAILURE message: AM	X	X	Diff.		
9.1	Contents of RADIO BEARER RECONFIGURATION message: AM or UM	X	X	Diff.		
9.1	Contents of RADIO BEARER RECONFIGURATION FAILURE message: AM	X	X	Diff.		
9.1	Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM	X	X	Diff.		
9.1	Contents of RADIO BEARER RELEASE message: AM or UM	X	X	Diff.		
9.1	Contents of RADIO BEARER RELEASE COMPLETE message: AM	X	X	Same		
9.1	Contents of RADIO BEARER RELEASE FAILURE message: AM	X	X	Same		
9.1	Contents of RRC CONNECTION REQUEST message: TM	X	X	Diff.		
9.1	Contents of RRC CONNECTION REJECT message: UM	X	X	Same		
9.1	Contents of RRC CONNECTION RELEASE message: UM	X	X	Same		
9.1	Contents of RRC CONNECTION RELEASE COMPLETE message: AM or UM	X	X	Same		
9.1	Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH)	X	X	Diff.		
9.1	Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)	X	X	Diff.		
9.1	Contents of RRC CONNECTION SETUP COMPLETE message: AM	X	X	Same		
9.1	Contents of RRC STATUS message: AM	X	X	Same		
9.1	Contents of SECURITY MODE COMMAND	X	X	Same		

	message: AM					
9.1	Contents of SECURITY MODE COMPLETE message: AM	X	X	Same		
9.1	Contents of SECURITY MODE FAILURE message: AM	X	X	Same		
9.1	Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM	X	X	Diff		
9.1	Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM	X	X	Diff.		
9.1	Contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message: AM	X	X	Diff.		
9.1	Contents of TRANSPORT FORMAT COMBINATION CONTROL message: AM or UM (in CELL_DCH)	X	X	Diff.		
9.1	Contents of TRANSPORT FORMAT COMBINATION CONTROL FAILURE message: AM	X	X	Same		
9.1	Contents of UE CAPABILITY ENQUIRY message: AM or UM	X	X	Diff.		
9.1	Contents of UE CAPABILITY INFORMATION message: AM	X	X	Diff.		
9.1	Contents of UE CAPABILITY INFORMATION CONFIRM message: UM	X	X	Same		
9.1	Contents of URA UPDATE message: TM	X	X	Same		
9.1	Contents of URA UPDATE CONFIRM message: UM	X	X	Same		
9.1	Contents of UTRAN MOBILITY INFORMATION message: AM or UM	X	X	Same		
9.1	Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM	X	X	Same		
9.1	Contents of UTRAN MOBILITY INFORMATION FAILURE message: AM	X	X	Same		
9.1	Contents of RRC STATUS message: AM	X	X	Same		
9.1	Contents of HANDOVER FROM UTRAN COMMAND-GSM message: AM	X	X	Same		
9.1	Contents of HANDOVER FROM UTRAN FAILURE message: AM	X	X	Same		
9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM	X	X	Diff.		
9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM	X	X	Diff.		

9.1	Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM	X	X	Same		
Note: "X": available "-": not available						

8.5.2 Default Message Contents for RF

Claus in TS 34.108	Title	1.28 Mcps TDD	FDD	Different or Same	Brief Description	Reference in this document
9.2	Contents of Activate RB Test Mode message	X	X	Same		
9.2	Contents of Close UE Test Loop message	X	X	Diff.		
9.2	Contents of Open UE Test Loop message	X	X	Same		
9.2	Contents of PAGING TYPE 1 message: TM (CS)	X	X	Same		
9.2	Contents of PAGING TYPE 1 message: TM (PS)	X	X	Same		
9.2	Contents of RADIO BEARER SETUP message: AM or UM	X	X	Diff.		
9.2	Contents of RADIO BEARER SETUP message: AM or UM (HSDPA)	-	X	-		
9.2	Contents of RADIO BEARER SETUP message: BTFD RMC	-	X	-		
9.2	Contents of RRC CONNECTION RELEASE message: UM	-	X	-		
9.2	Contents of RRC CONNECTION SETUP message: UM	X	X	Diff.		
9.2	Contents of SECURITY MODE COMMAND message: AM	X	X	Same		
Note: "X": available "-": not available						

Annex A:
Change history

Meeting -1st- Level	Doc-1st-Level	CR	Rev	Subject	Cat	Version- Current	Version- New	Doc-2nd- Level
RP-29	RP-050510	-	-	Approval of the specification to go under revision control		2.0.0	5.0.0	R5-051526

History

Document history		
V5.0.0	October 2005	Publication