

## 6.10 Reference Radio Bearer configurations used in Radio Bearer interoperability testing

The reference radio bearer configurations are typical configurations of the radio interface. This sub-set of the mandatory set of radio bearer configurations supported by the UE is intended to be used as test configurations for testing of the UE. The purpose of the reference radio bearer configurations is to ensure interoperability of UE's in different regions and networks.

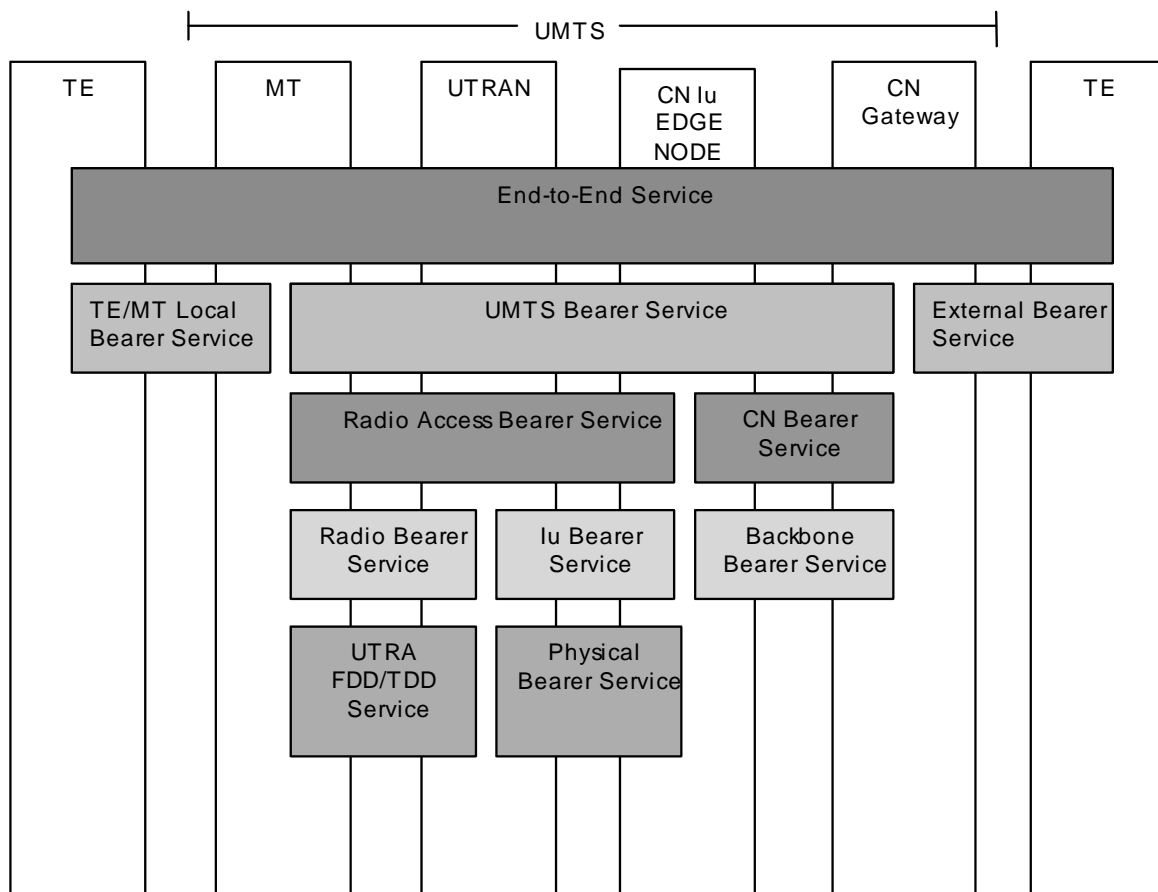
The reference radio bearer configurations are used in the radio bearer interoperability test cases, clause 14 of 3GPP TS 34.123-1 [1]. The reference radio bearer configurations are also intended to be the first choice for other test cases where a radio bearer configuration is needed. For test cases requiring alternative configurations not provided by the reference radio bearer configurations then these specific radio bearer configurations are either specified in the actual test case itself; or in case the configurations are used by more than one test case then these common radio bearer configurations are specified in clause 6.11 of the present document.

**NOTE:** If not specifically specified then the mid-value of the RM attribute value range as specified by the actual reference radio bearer configuration shall be applied for testing. However, in the case of UL and DL:3.4 kbps SRBs for DCCCH and where the Choice "Same As UL" is used for the IE "DL Transport channel information common for all transport channel", the RM attribute for the "DL:3.4 kbps SRBs for DCCCH" shall be set to the same value as that used in the Uplink.

### 6.10.1 QoS Architecture and RAB attributes

From a user point-of-view services are considered end-to-end, this means from a Terminal Equipment (TE) to another TE. An End-to-End Service may have a certain Quality of Service (QoS) which is provided for the user through the different networks. In UMTS, it is the UMTS Bearer Service that provides the requested QoS through the use of different QoS classes as defined in 3GPP TS 23.107 [15].

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



**Figure 6.10.1.1: UMTS QoS Architecture**

The Radio Access Bearer Service is characterized by a number of attributes such as Traffic class, Maximum bit rate, Guaranteed bit rate, SDU error ratio, Residual BER, Transfer Delay etc. As a first approach the four following attributes have been considered to come up with the parameter settings in clause 6.10.2.4 for FDD mode and clause 6.10.3.4 for TDD mode:

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

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

NOTE: The maximum bit rate in clause 6.10.2.4 for FDD mode and clause 6.10.3.4 for TDD mode is one of the RAB attribute as described above. For Interactive/Background PS RABs, however, the maximum bit rate of Radio Bearer can be lower than the maximum bit rate of RAB attributes due to radio resource management. Bit rates of Interactive/Background PS RABs described in 6.10.2.4 for FDD mode and clause 6.10.3.4 for TDD mode may represent the maximum bit rate of Radio Bearer taking account into this management.

**Table 6.10.1.1: Traffic classes**

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

## 6.10.2 RAB and signalling RB for FDD

### 6.10.2.1 RABs and signalling RBs

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

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

**Table 6.10.2.1.1: Prioritized RABs**

#	Traffic class 3GPP TS 23.107 [15]	SSD 3GPP TS 23.107 [15]	Max. rate, kbps	CS/PS	Version
1	Conversational	Speech	UL:12.2 DL:12.2	CS	R99
1a	Conversational	Speech	UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75)	CS	R99
1b	Conversational	Speech	UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75)	CS	R99
2	Conversational	Speech	UL:10.2 DL:10.2	CS	R99
2a	Conversational	Speech	UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75)	CS	R99
3	Conversational	Speech	UL:7.95 DL:7.95	CS	R99
4	Conversational	Speech	UL:7.4 DL:7.4	CS	R99
4a	Conversational	Speech	UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75)	CS	R99

#	Traffic class 3GPP TS 23.107 [15]	SSD 3GPP TS 23.107 [15]	Max. rate, kbps	CS/PS	Version
5	Conversational	Speech	UL:6.7 DL:6.7	CS	R99
6	Conversational	Speech	UL:5.9 DL:5.9	CS	R99
7	Conversational	Speech	UL:5.15 DL:5.15	CS	R99
8	Conversational	Speech	UL:4.75 DL:4.75	CS	R99
9	Conversational	Unknown	UL:28.8 DL:28.8	CS	R99
10	Conversational	Unknown	UL:64 DL:64	CS	R99
11	Conversational	Unknown	UL:32 DL:32	CS	R99
11a	Conversational	Unknown	UL:8 DL:8	PS	R99
12	Streaming	Unknown	UL:14.4 DL:14.4	CS	R99
13	Streaming	Unknown	UL:28.8 DL:28.8	CS	R99
14	Streaming	Unknown	UL:57.6 DL:57.6	CS	R99
15	Void				
15a	Streaming	Unknown	UL:16 DL:64	PS	R99
15b	Streaming	Unknown	UL:16 DL:128	PS	R99
16	Void				
17	Void				
18	Void				
19	Void				
20	Interactive or Background	N/A	UL:32 DL:8	PS	R99
20a	Interactive or Background	N/A	UL:8 DL:8	PS	R99
20b	Interactive or Background	N/A	UL:16 DL:16	PS	R99
20c	Interactive or Background	N/A	UL:32 DL:32	PS	R99
21	Void				
22	Interactive or Background	N/A	UL:32 DL:64	PS	R99
23	Interactive or Background	N/A	UL:64 DL:64	PS	R99
24	Interactive or Background	N/A	UL:64 DL:128	PS	R99
25	Interactive or Background	N/A	UL:128 DL:128	PS	R99
26	Interactive or Background	N/A	UL:64 DL:384	PS	R99
27	Interactive or Background	N/A	UL:128 DL:384	PS	R99
28	Interactive or Background	N/A	UL:384 DL:384	PS	R99
29	Interactive or Background	N/A	UL:64 DL:2048	PS	R99
30	Interactive or Background	N/A	UL:128 DL:2048	PS	R99
31	Void				
32	Interactive or Background	N/A	UL:64 DL:256	PS	R99
33	Interactive or Background	N/A	UL:0 DL:32	PS	R99
34	Interactive or Background	N/A	UL:32 DL: 0	PS	R99
35	Interactive or Background	N/A	UL:64 DL:144	PS	R99
36	Interactive or Background	N/A	UL:144 DL:144	PS	R99
37	Conversational	N/A	UL:42.8 DL:42.8	PS	REL-5
38	Conversational	Speech	UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6)	CS	REL-5
39	Interactive or Background	N/A	UL:64 DL:768	PS	REL-5

Table 6.10.2.1.2: Signalling RBs

#	Maximum rate, kbps	Logical channel	PhyCh onto which SRBs are mapped	Version
1	UL:1.7 DL:1.7	DCCH	DPCH	R99 and Rel-4 only
2	UL:3.4 DL:3.4	DCCH	DPCH	R99
3	UL:13.6 DL:13.6	DCCH	DPCH	R99
4	DL:27.2 (alt. 40.8)	DCCH	SCCPCH	R99
5	UL:16.6/23.8	CCCH	PRACH	R99/Rel-6
6	DL:30.4 (alt. 45.6)	CCCH	SCCPCH	R99
7	DL:33.2 (alt. 49.8)	BCCH	SCCPCH	R99
8	DL:24 (alt. 6.4)	PCCH	SCCPCH	R99
9	DL: 0.15	DCCH	DPCH	REL-5
10	UL: [max bit rate depending on UE category and TTI], DL: [max bit rate depending on UE category]	DCCH	E-DPCH/HS-DSCH	REL-6

### 6.10.2.2 Combinations of RABs and Signalling RBs

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

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

#### Combinations on DPCH

- 1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (R99 and Rel-4 only).
- 2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH.
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 4a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 4b) Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH (REL-4).
- 5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 5a) Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7a) Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 8) Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 9) Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 10) Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 11) Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 12) Conversational / unknown / UL:28.8 DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 13) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14) Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 15) Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 16) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 17) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 18) Void
- 19) Void.
- 20) Void.
- 21) Void.
- 22) Void.

- 23) Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23a) Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23b) Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23c) Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 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.
- 24) Void
- 25) Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 26) Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 27) Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 28) Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 29) Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 30) Interactive or background / UL:144 DL:144 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 31) Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 32) Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 33) Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 34) Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 35) Interactive or background / UL:64 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 36) Void
- 37) Void
- 38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38a) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:0 DL:0 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38b) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38c) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38d) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38e) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:0 DL:0 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38f) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 38g) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:16 DL:16 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38h) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38i) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38j) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38k) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (L1 multiplexing).
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:256 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:128 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 46) Void
- 47) Void.
- 48) Void.
- 49) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 49a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 50) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51a) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or Background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51b) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or Background / UL:16 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 52) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 53) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:128 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 54) Void
- 55) Void.
- 56) Interactive or background / 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.
- 57) Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 58) Streaming / unknown / UL:16 DL:64 kbps / PS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 58a) Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 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).
- 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).
- 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).

#### Combinations on DSCH and DPCH

- 1) Void

- 2) Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH (R99 and Rel-4 only).
- 3) Interactive or background / UL:64 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH (R99 and Rel-4 only).
- 4) Void
- 5) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (R99 and Rel-4 only).
- 6) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (R99 and Rel-4 only).

#### Combinations on SCCPCH

- 1) Stand-alone 24 kbps SRB for PCCH.
- 2) Interactive or background / DL:32 kbps / PS RAB  
+ SRB for CCCH  
+ SRBs 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
- 5) 64.8kbps RB for MTCH with 80 ms TTI
- 6) 129.6 kbps RB for MTCH with 80 ms TTI
- 7) 259.2 kbps RB for MTCH with 40 ms TTI
- 8) 7.6 kbps signalling RB for MCCH
- 9) Interactive or background / DL:32 kbps / PS RAB  
+ SRB for PCCH  
+ SRB for CCCH  
+ SRBs for DCCH  
+ SRB for BCCH  
+ SRB for MCCH.

#### Combinations on PRACH

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

#### Combinations on DPCH and HS-PDSCH

- 1) Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 1a) Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 2) Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)



- 3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 3a) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 4) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 4a) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 5) Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 5a) Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 6) Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 7) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 8) Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH (REL-5)
- 9) Streaming MBMS PTP / unknown / UL:16 DL: [max bit rate depending on UE category] kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-6)
- 10) Streaming MBMS PTP / unknown / UL:16 DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-6)

#### Combinations on HS-PDSCH and E-DPDCH

- 0) Stand-alone UL: [max bit rate depending on UE category and TTI] DL:[max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)
- 1) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH (REL-6)
- 2) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH (REL-6)
- 3) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 5) Streaming or interactive or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

- 6) Conversational / unknown or speech / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)
- 7) Conversational / unknown or speech / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)
- 8) Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH (REL-6)
- 9) Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-8 + NOTE1)
- 10) Conversational / speech / UL:(12.65, 8.85, 6.6) kbps DL: (12.65, 8.85, 6.6) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-8 + NOTE1)

NOTE1: Support depends on the UE capability: Support for CS voice over HSPA. This is supported in rel-8 and may be supported in rel-7.

#### Combinations on PRACH and HS-DSCH

- 1) Interactive/Background / UL:32 DL: [max bit rate depending on UE category] with fixed RLC and MAC-ehs / PS RAB + SRBs for CCCH + DCCH on RACH and SRB with fixed RLC and MAC-ehs on HS-DSCH / DL:QPSK

### 6.10.2.3 Example of linkage between RABs and services

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

**Table 6.10.2.3.1: Example of linkage between RABs and services**

RAB				Residual BER [15]	Services
Traffic class [15]	SSD [15]	Max. rate, kbps	CS/PS		
Conversational	Speech	UL:4.75-12.2 DL:4.75-12.2	CS	$5 \times 10^{-4}$ , $1 \times 10^{-3}$ , $5 \times 10^{-3}$	AMR speech
Conversational	Unknown	UL:64 DL:64	CS	$1 \times 10^{-4}$ or $1 \times 10^{-6}$	UDI 1B, 64k 3G-324M [15]
Conversational	Unknown	UL:32 DL:32	CS	$1 \times 10^{-4}$ or $1 \times 10^{-6}$	32k 3G-324M [15]
Conversational	Unknown	UL:28.8 DL:28.8	CS	$1 \times 10^{-3}$	Transparent modem
Streaming	Unknown	UL:14.4 DL:14.4	CS	$1 \times 10^{-3}$	FAX <sup>[6]</sup>
Streaming	Unknown	UL:28.8 DL:28.8	CS	$1 \times 10^{-3}$	FAX [18] PIAFS 32 kbps
Streaming	Unknown	UL:57.6 DL:57.6	CS	$1 \times 10^{-3}$	Modem [18], FTM [17] PIAFS 64 kbps
Streaming	Unknown	UL:64-128 or DL:64-384	CS	$1 \times 10^{-3}$ or $1 \times 10^{-4}$	Streaming video, uni-directional
Interactive or Background	N/A	UL:32-384 DL:8-2048	PS	$1 \times 10^{-3}$ or $1 \times 10^{-4}$	Packet

NOTE 1: SMS can be provided via the signalling RB (DCCH) on DPCH or SCCPCH.

NOTE 2: CBS can be provided via the signalling RB (CTCH) on SCCPCH.

NOTE 3: UDI  $n$ B can be provided via  $n$  RA Bs of conversational 64 kbps.

## 6.10.2.4 Typical radio parameter sets

NOTE: The order of tables and MAC-d flow numbering in this section may be different than the RB IDs and MAC-d flow IDs as defined in default messages in section 9.

### 6.10.2.4.1 Combinations on DPCH

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

##### 6.10.2.4.1.1.1 Uplink

##### 6.10.2.4.1.1.1.1 Transport channel parameters

##### 6.10.2.4.1.1.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt 0, 148)			
	TFS	TF0, bits	0x148 (alt 1x0)		
		TF1, bits	1x148		
	TTI, ms	80			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Uplink: Max number of bits/radio frame before rate matching	65			
	RM attribute	155 to 185			

##### 6.10.2.4.1.1.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

##### 6.10.2.4.1.1.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

##### 6.10.2.4.1.1.2 Downlink

##### 6.10.2.4.1.1.2.1 Transport channel parameters

##### 6.10.2.4.1.1.2.1.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM

	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt 0, 148) (note)			
	TFS	0 x148 (alt 1x0) (note)			
	TF0, bits	1x148			
	TF1, bits	1x148			
	TTI, ms	80			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	RM attribute	155 to 185			
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.					

## 6.10.2.4.1.1.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.1.1.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed	
	Spreading factor		512	
	DPCCH	Number of TFCI bits/slot		0
		Number of TPC bits/slot		2
		Number of Pilot bits/slot		4
	DPDCH	Number of data bits/slot		4
		Number of data bits/frame		60

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

## 6.10.2.4.1.2.1 Uplink

## 6.10.2.4.1.2.1.1 Transport channel parameters

## 6.10.2.4.1.2.1.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt 0, 148)			
	TFS	0x148 (alt 1x0)			
	TF0, bits	1x148			
	TF1, bits	1x148			
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Uplink: Max number of bits/radio frame before rate matching	129			
	RM attribute	155 to 185			

## 6.10.2.4.1.2.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.1.2.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

## 6.10.2.4.1.2.2 Downlink

## 6.10.2.4.1.2.2.1 Transport channel parameters

## 6.10.2.4.1.2.2.1.1 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt 0, 148) (note)			
	TFS	TF0, bits	0x148 (alt 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	RM attribute	155 to 230			

NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.

## 6.10.2.4.1.2.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.1.2.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed	
	Spreading factor	256	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	14
		Number of data bits/frame	210

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

## 6.10.2.4.1.3.1 Uplink

## 6.10.2.4.1.3.1.1 Transport channel parameters

## 6.10.2.4.1.3.1.1.1 Transport channel parameters for UL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13 600	12 800	12 800	12 800
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TF sizes, bit	148 (alt 0, 148)			
	TFS	TF0, bits	0x148 (alt 1x0)		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Uplink: Max number of bits/radio frame before rate matching	516			

## 6.10.2.4.1.3.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.1.3.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	1

## 6.10.2.4.1.3.2 Downlink

## 6.10.2.4.1.3.2.1 Transport channel parameters

## 6.10.2.4.1.3.2.1.1 Transport channel parameters for DL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13 600	12 800	12 800	12 800
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TF sizes, bit	148 (alt 0, 148) (note)			
	TFS	TF0, bits	0x148 (alt 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			

	Max number of bits/TTI before rate matching	516
NOTE: alternative parameters enable the measurement "transport channel BLER" in the UE.		

## 6.10.2.4.1.3.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.1.3.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TF0 bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

## 6.10.2.4.1.4.1 Uplink

## 6.10.2.4.1.4.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 81 (alt. 0, 39, 81)	103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 81 (alt. 0, 39, 81)	103	60	
	TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x103	1x60
		TF2, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Uplink: Max number of bits/radio frame before rate matching	152	167	68	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.4.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.

## 6.10.2.4.1.4.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)=

	(TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
--	---

## 6.10.2.4.1.4.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.84

## 6.10.2.4.1.4.2 Downlink

## 6.10.2.4.1.4.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0	103	60	
		39			
		81			
	Max data rate, bps	12 200			
TrD PDU header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	103	60	
		39			
		81			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x103	0x60
		TF1, bits	1x39	1x103	1x60
		TF2, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 anytime since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.4.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.4.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)

## 6.10.2.4.1.4.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed	
	Spreading factor	128	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510



- 6.10.2.4.1.4a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.4a.1 Uplink
- 6.10.2.4.1.4a.1.1 Transport channel parameters
- 6.10.2.4.1.4a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 81)	53, 63, 84, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	TFS	TF0, bits	0x81 (alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x84	N/A
		TF4, bits	1x75	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Uplink: Max number of bits/radio frame before rate matching	152	167	68	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

- 6.10.2.4.1.4a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.4a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)

- 6.10.2.4.1.4a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.84

- 6.10.2.4.1.4a.2 Downlink
- 6.10.2.4.1.4a.2.1 Transport channel parameters
- 6.10.2.4.1.4a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0, 39, 42, 55, 75, 81	53, 63, 84, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0, 39, 42, 55, 75, 81	53, 63, 84, 103	60	
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x84	N/A
		TF4, bits	1x75	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

- 6.10.2.4.1.4a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

- 6.10.2.4.1.4a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)

- 6.10.2.4.1.4a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

- 6.10.2.4.1.4b Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH
- 6.10.2.4.1.4b.1.1 Transport channel parameters
- 6.10.2.4.1.4b.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 61, 81 (alt. 0, 39, 42, 55, 61, 81)	53, 63, 87, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 61, 81 (alt. 0, 39, 42, 55, 61, 81)	53, 63, 87, 103	60	
	TFS	TF0, bits	0x81 (alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2 bits	1x42	1x63	N/A
		TF3, bits	1x55	1x87	N/A
		TF4, bits	1x61	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Uplink: Max number of bits/radio frame before rate matching	152	167	68	
	RM attribute	180 to 220	170 to 210	215 to 256	
	NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

#### 6.10.2.4.1.4b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

#### 6.10.2.4.1.4b.1.1.3 TFCS

See subclause 6.10.2.4.1.4a.1.1.3 of [1].

#### 6.10.2.4.1.4b.1.1.4 TFC subset list

TFC subset list size	4
TFC subset list	<p>0 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1)},</p> <p>1 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1)},</p> <p>2 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1)}</p> <p>3 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)}</p>

#### 6.10.2.4.1.4b.1.2 Physical channel parameters

See subclause 6.10.2.4.1.4a.1.2 of [1].

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.84

- 6.10.2.4.1.4b.2 Downlink
- 6.10.2.4.1.4b.2.1 Transport channel parameters
- 6.10.2.4.1.4b.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0, 39, 42, 55, 61, 81	53, 63, 87, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0, 39, 42, 55, 61, 81	53, 63, 87, 103	60	
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x87	N/A
		TF4, bits	1x61	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

- 6.10.2.4.1.4b.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

- 6.10.2.4.1.4b.2.1.3 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

- 6.10.2.4.1.4b.2.1.3 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH, DCCH 0.15)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)

- 6.10.2.4.1.4b.2.2 Physical channel parameters

See subclause 6.10.2.4.1.4a.2.2 of [1].

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

- 6.10.2.4.1.5.1 Uplink

- 6.10.2.4.1.5.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Uplink: Max number of bits/radio frame before rate matching	128	161	48	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

## 6.10.2.4.1.5.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.5.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)

## 6.10.2.4.1.5.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.5.2 Downlink

## 6.10.2.4.1.5.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	TM
	Payload sizes, bit	0 39 65	99	40
	Max data rate, bps	10 200		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		

Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		0 39 65	99	40
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	N/A	N/A
	Max number of bits/TTI after channel coding		255	321	96
	RM attribute		180 to 220	170 to 210	215 to 256
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.5.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.5.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)

## 6.10.2.4.1.5.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

## 6.10.2.4.1.5a Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.5a.1 Uplink

## 6.10.2.4.1.5a.1.1 Transport channel parameters

## 6.10.2.4.1.5a.1.1.1 Transport channel parameters for Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40
	Max data rate, bps		10 200		
	TrD PDU header, bit		0		
	MAC header, bit		0		
MAC	MAC multiplexing		N/A		
	TrCH type		DCH	DCH	DCH
Layer 1	TB sizes, bit		39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A

	TF3, bits	1x55	1x76	N/A
	TF4, bits	1x58	1x99	N/A
	TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20
	Coding type	CC 1/3	CC 1/3	CC 1/2
	CRC, bit	12	N/A	N/A
	Max number of bits/TTI after channel coding	255	321	96
	Uplink: Max number of bits/radio frame before rate matching	128	161	48
	RM attribute	180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

## 6.10.2.4.1.5a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.5a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)

## 6.10.2.4.1.5a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.5a.2 Downlink

## 6.10.2.4.1.5a.2.1 Transport channel parameters

## 6.10.2.4.1.5a.2.1.1 Transport channel parameters for Conversational / speech / DL: DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0, 39, 42, 55, 58, 65	0, 53, 63, 76, 99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0, 39, 42, 55, 58, 65	0, 53, 63, 76, 99	40	
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x76	N/A
		TF4, bits	1x58	1x99	N/A
		TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
RM attribute	180 to 220	170 to 210	215 to 256		

NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).

NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).

#### 6.10.2.4.1.5a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.5a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)

#### 6.10.2.4.1.5a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCl bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

##### 6.10.2.4.1.6.1 Uplink

##### 6.10.2.4.1.6.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39,75 (alt. 0, 39, 75)	84	60	
	Max data rate, bps	7950			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39,75 (alt. 0, 39, 75)	84	60	
	TFS (note 1)	TF0, bits	0x75 (alt. 1x0) (note)	0x84	0x60
		TF1, bits	1x39	1x84	N/A
		TF2, bits	1x75	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	285	276	0	
	Uplink: Max number of bits/radio frame before rate matching	143	138	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clauses 4.2.1.1 in 3GPP TS 25.212 [14]).				

##### 6.10.2.4.1.6.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH



See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.6.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow #3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

#### 6.10.2.4.1.6.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

#### 6.10.2.4.1.6.2 Downlink

##### 6.10.2.4.1.6.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0, 39, 75	84	60	
	Max data rate, bps	7950			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	84	60	
		39			
		75			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x84	0x60
		TF1, bits	1x39	1x84	N/A
		TF2, bits	1x75	N/A	N/A
	TTL, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTL after channel coding	285	276	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

##### 6.10.2.4.1.6.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.6.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

#### 6.10.2.4.1.6.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed	
	Spreading factor	128	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2

		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

6.10.2.4.1.7.1 Uplink

6.10.2.4.1.7.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB subflow #1	RAB subflow #2	RAB subflow #3
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		39, 61 (alt. 0, 39, 61)	87	60
	Max data rate, bps		7400		
	TrD PDU header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		39, 61 (alt. 0, 39, 61)	87	60
	TFS (note 1)	TF0, bits	0x61 (alt. 1x0) (note)	0x87	0x60
		TF1, bits	1x39	1x87	N/A
		TF2, bits	1x61	N/A	N/A
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	N/A	N/A
	Max number of bits/TTI after channel coding		243	285	0
	Uplink: Max number of bits/radio frame before rate matching		122	143	0
	RM attribute		180 to 220	170 to 210	215 to 256
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clauses 4.2.1.1 in 3GPP TS 25.212 [14]).				

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.7.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

6.10.2.4.1.7.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.7.2 Downlink

## 6.10.2.4.1.7.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0	87	60	
		39			
	61				
Max data rate, bps	7400				
TrD PDU header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	87	60	
		39			
		61			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x87	0x60
		TF1, bits	1x39	1x87	N/A
		TF2, bits	1x61	N/A	N/A
	TTL, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTL after channel coding	243	285	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.7.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.7.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.7.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed
	Spreading factor	128
DPCCH	Number of TFCI bits/slot	0
	Number of TPC bits/slot	2
	Number of Pilot bits/slot	4
DPDCH	Number of data bits/slot	34
	Number of data bits/frame	510

## 6.10.2.4.1.7a Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.7a.1 Uplink

## 6.10.2.4.1.7a.1.1 Transport channel parameters

## 6.10.2.4.1.7a.1.1.1 Transport channel parameters for Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Uplink: Max number of bits/radio frame before rate matching	122	143	
RM attribute	180 to 220	170 to 210		
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

## 6.10.2.4.1.7a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.7a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF3, TF2, TF0), (TF4, TF3, TF0), (TF5, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)

## 6.10.2.4.1.7a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.7a.2 Downlink

## 6.10.2.4.1.7a.2.1 Transport channel parameters

## 6.10.2.4.1.7a.2.1.1 Transport channel parameters for Conversational / speech / DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	0, 39, 42, 55, 58, 61	53, 63, 76, 87
	Max data rate, bps	7 400	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	0, 39, 42, 55, 58, 61	53, 63, 76, 87

	TFS (note 1)	TF0, bits	1x0 (note 2)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	N/A
	Max number of bits/TTI after channel coding		243	285
	RM attribute		180 to 220	170 to 210

NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).

NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB #1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).

## 6.10.2.4.1.7a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.7a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF3, TF2, TF0), (TF4, TF3, TF0), (TF5, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)

## 6.10.2.4.1.7a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

## 6.10.2.4.1.8.1 Uplink

## 6.10.2.4.1.8.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 58 (alt. 0, 39, 58)	76	60	
	Max data rate, bps	6700			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 58 (alt. 0, 39, 58)	76	60	
	TFS (note 1)	TF0, bits	0x58 (alt. 1x0) (note)	0x76	0x60
		TF1, bits	1x39	1x76	N/A
		TF2, bits	1x58	N/A	N/A

	TTI, ms	20	20	20
	Coding type	CC 1/3	CC 1/3	CC 1/2
	CRC, bit	12	N/A	N/A
	Max number of bits/TTI after channel coding	234	252	0
	Uplink: Max number of bits/radio frame before rate matching	117	126	0
	RM attribute	180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clauses 4.2.1.1 in 3GPP TS 25.212 [14]).				

## 6.10.2.4.1.8.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.8.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.8.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.8.2 Downlink

## 6.10.2.4.1.8.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0	76	60	
		39			
		58			
	Max data rate, bps	6700			
TrD PDU header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	76	60	
		39			
		58			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x76	0x60
		TF1, bits	1x39	1x76	N/A
		TF2, bits	1x58	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	234	252	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.8.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

## 6.10.2.4.1.8.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.8.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

## 6.10.2.4.1.9.1 Uplink

## 6.10.2.4.1.9.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 55 (alt. 0, 39, 55)	63	60	
	Max data rate, bps	5900			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 55 (alt. 0, 39, 55)	63	60	
	TFS	TF0, bits	0x55 (alt. 1x0) (note)	0x63	0x60
		TF1, bits	1x39	1x63	N/A
		TF2, bits	1x55	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	225	213	0	
	Uplink: Max number of bits/radio frame before rate matching	113	107	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

## 6.10.2.4.1.9.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.9.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.9.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.96

## 6.10.2.4.1.9.2 Downlink

## 6.10.2.4.1.9.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0	63	60	
		39			
		55			
Max data rate, bps	5900				
TrD PDU header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	63	60	
		39			
		55			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x63	0x60
		TF1, bits	1x39	1x63	N/A
		TF2, bits	1x55	N/A	N/A
	TTL, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTL after channel coding	225	213	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 anytime since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.9.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.9.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.9.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed
	Spreading factor	256
	DPCCH	Number of TFCI bits/slot



		Number of TPC bits/slot	2
		Number of Pilot bits/slot	2
	DPDCH	Number of data bits/slot	16
		Number of data bits/frame	240

6.10.2.4.1.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.10.1 Uplink

6.10.2.4.1.10.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 49 (alt. 0, 39, 49)	54	60	
	Max data rate, bps	4750			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 49 (alt. 0, 39, 49)	54	60	
	TFS	TF0, bits	0x49 (alt. 1x0) (note)	0x54	0x60
		TF1, bits	1x39	1x54	N/A
		TF2, bits	1x49	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	12	N/A	
	Max number of bits/TTI after channel coding	207	186	0	
	Uplink: Max number of bits/radio frame before rate matching	104	93	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of usign this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.10.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

6.10.2.4.1.10.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	128
	Max number of DPDCH data bits/radio frame	300
	Puncturing Limit	0.72

## 6.10.2.4.1.10.2 Downlink

## 6.10.2.4.1.10.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0	54	60	
		39			
	49				
Max data rate, bps	5150				
TrD PDU header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0	54	60	
		39			
		49			
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x54	0x60
		TF1, bits	1x39	1x54	N/A
		TF2, bits	1x49	N/A	N/A
	TTL, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTL after channel coding	207	186	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.10.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.10.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.10.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed
	Spreading factor	256
DPCCH	Number of TFCI bits/slot	0
	Number of TPC bits/slot	2
	Number of Pilot bits/slot	4
DPDCH	Number of data bits/slot	14
	Number of data bits/frame	210

- 6.10.2.4.1.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.11.1 Uplink
- 6.10.2.4.1.11.1.1 Transport channel parameters
- 6.10.2.4.1.11.1.1.1 Transport channel parameters for Conversational / speech / UL:4.75 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42 (alt. 0, 39, 42)	53	60	
	Max data rate, bps	4750			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42 (alt. 0, 39, 42)	53	60	
	TFS	TF0, bits	0x42 (alt. 1x0) (note)	0x53	0x60
		TF1, bits	1x39	1x53	N/A
		TF2, bits	1x42	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	186	183	0	
	Uplink: Max number of bits/radio frame before rate matching	93	92	0	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of usign this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).				

- 6.10.2.4.1.11.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.11.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

- 6.10.2.4.1.11.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	128
	Max number of DPDCH data bits/radio frame	300
	Puncturing Limit	0.76

- 6.10.2.4.1.11.2 Downlink

- 6.10.2.4.1.11.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	TM

	Payload sizes, bit	0 39 42	53	60	
	Max data rate, bps	4750			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0 39 42	53	60	
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x53	0x60
		TF1, bits	1x39	1x53	N/A
		TF2, bits	1x42	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	186	183	0	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					

## 6.10.2.4.1.11.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.11.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1)

## 6.10.2.4.1.11.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		256
	DPCCH	Number of TFCl bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	14
		Number of data bits/frame	210

6.10.2.4.1.12 Conversational / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.12.1 Uplink

6.10.2.4.1.12.1.1 Transport channel parameters

6.10.2.4.1.12.1.1.1 Transport channel parameters for conversational / unknown / UL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
	Uplink: Max number of bits/radio frame before rate matching	891	
	RM attribute	160 to 200	

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.12.1.1.3 TFCS

TFCS size	6
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

6.10.2.4.1.12.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.92

6.10.2.4.1.12.2 Downlink

6.10.2.4.1.12.2.1 Transport channel parameters

6.10.2.4.1.12.2.1.1 Transport channel parameters for conversational / unknown / DL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576

	TF2, bits	2x576
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	3 564
	RM attribute	160 to 200

#### 6.10.2.4.1.12.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.12.2.1.3 TFCS

TFCS size	6
TFCS	(28.8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

#### 6.10.2.4.1.12.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

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

#### 6.10.2.4.1.13.1 Uplink

#### 6.10.2.4.1.13.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		64 000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0x640
		TF1, bits	2x640(alt. 4x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3 948(alt. 7 884)
	Uplink: Max number of bits/radio frame before rate matching		1 974(alt. 1 971)
	RM attribute		150 to 195

#### 6.10.2.4.1.13.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.13.1.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.13.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.88

## 6.10.2.4.1.13.2 Downlink

## 6.10.2.4.1.13.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	64 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	2x640(alt. 4x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 948(alt. 7 884)	
RM attribute	150 to 195		

## 6.10.2.4.1.13.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.13.2.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.13.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

- 6.10.2.4.1.14 Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.14.1 Uplink
- 6.10.2.4.1.14.1.1 Transport channel parameters
- 6.10.2.4.1.14.1.1.1 Transport channel parameters for Conversational / unknown / UL:32 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 980 (alt. 3 948)	
	Uplink: Max number of bits/radio frame before rate matching	990 (alt. 987)	
	RM attribute	165 to 210	

- 6.10.2.4.1.14.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.13.1.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

- 6.10.2.4.1.14.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.80

- 6.10.2.4.1.14.2 Downlink

- 6.10.2.4.1.14.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	



	Max number of bits/TTI after channel coding	1 980(alt. 3 948)
	RM attribute	165 to 210

## 6.10.2.4.1.14.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.

## 6.10.2.4.1.14.2.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.14.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

## 6.10.2.4.1.15 Streaming / unknown / UL: 14.4/DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.15.1 Uplink

## 6.10.2.4.1.15.1.1 Transport channel parameters

## 6.10.2.4.1.15.1.1.1 Transport channel parameters for Streaming / unknown / UL: 14.4 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	14 400	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 788	
	Uplink: Max number of bits/radio frame before rate matching	447	
	RM attribute	145 to 185	

## 6.10.2.4.1.15.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.15.1.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.15.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
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	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.88

## 6.10.2.4.1.15.2 Downlink

## 6.10.2.4.1.15.2.1 Transport channel parameters

## 6.10.2.4.1.15.2.1.1 Transport channel parameters for Streaming / unknown / DL:14.4 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	14 400	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 788	
	RM attribute	145 to 185	

## 6.10.2.4.1.15.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.15.2.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.15.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	2
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	28
		Number of data bits/frame	420

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

## 6.10.2.4.1.16.1 Uplink

## 6.10.2.4.1.16.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	TM
	Payload sizes, bit	576
	Max data rate, bps	28 800
	TrD PDU header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A

Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3 564
	Uplink: Max number of bits/radio frame before rate matching		891
RM attribute		135 to 175	

#### 6.10.2.4.1.16.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.16.1.1.3 TFCS

TFCS size	6
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

#### 6.10.2.4.1.16.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.96

#### 6.10.2.4.1.16.2 Downlink

#### 6.10.2.4.1.16.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		28 800
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576 (alt. 1x0) (note)
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3 564
RM attribute		135 to 175	
NOTE: Alternative 1x0 is used to have CRC present in all transport formats.			

#### 6.10.2.4.1.16.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.16.2.1.3 TFCS

TFCS size	6
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

## 6.10.2.4.1.16.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
Number of data bits/frame		900	

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

6.10.2.4.1.17.1 Uplink

6.10.2.4.1.17.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		57 600
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		7 116
Uplink: Max number of bits/radio frame before rate matching		1 779	

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.17.1.1.3 TFCS

TFCS size	10
TFCS	(57.6 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

6.10.2.4.1.17.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.96

6.10.2.4.1.17.2 Downlink

6.10.2.4.1.17.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	57 600	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	7 116	
RM attribute	125 to 165		

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.17.2.1.3 TFCS

TFCS size	10
TFCS	(57.6 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

6.10.2.4.1.17.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible	
	Spreading factor	32	
	DPCCH	Number of TFC1 bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.18 Void

6.10.2.4.1.19 Void

6.10.2.4.1.20 Void

6.10.2.4.1.21 Void

6.10.2.4.1.22 Void

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

6.10.2.4.1.23.1 Uplink

6.10.2.4.1.23.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336 (alt. N/A)
	TTI, ms	20 (alt. 10)	
	Coding type	TC (alt. CC 1/3)	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 1 080)	
	Uplink: Max number of bits/radio frame before rate matching	1 062 (alt. 1 080)	
RM attribute	135 to 175		

## 6.10.2.4.1.23.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.23.1.1.3 TFCS

TFCS size	6 (alt. 4)
TFCS	(32 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1))

## 6.10.2.4.1.23.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.88

## 6.10.2.4.1.23.2 Downlink

## 6.10.2.4.1.23.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC (alt. CC 1/3)	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068 (alt. 1 080)	
RM attribute	135 to 175		

## 6.10.2.4.1.23.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.23.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.23.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	2
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	32
		Number of data bits/frame	480

## 6.10.2.4.1.23a Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.23a.1 Uplink

## 6.10.2.4.1.23a.1.1 Transport channel parameters

## 6.10.2.4.1.23a.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		8 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms		40
	Coding type		CC 1/3 (alt. TC)
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 080 (alt. 1 068)
	Uplink: Max number of bits/radio frame before rate matching		270 (alt. 267)
RM attribute		135 to 175	

## 6.10.2.4.1.23a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.23a.1.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.23a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	1.0

## 6.10.2.4.1.23a.2 Downlink

## 6.10.2.4.1.23a.2.1 Transport channel parameters

## 6.10.2.4.1.23a.2.1.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	CC 1/3 (alt. TC)	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 080 (alt. 1 068)	
	RM attribute	135 to 175	

## 6.10.2.4.1.23a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.23a.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.1.23a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	2
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	32
		Number of data bits/frame	480

## 6.10.2.4.1.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.23b.1 Uplink

## 6.10.2.4.1.23b.1.1 Transport channel parameters

## 6.10.2.4.1.23b.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336



	TF2, bits	2x336
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	2 124
	Uplink: Max number of bits/radio frame before rate matching	531
	RM attribute	135 to 175

## 6.10.2.4.1.23b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.23b.1.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

## 6.10.2.4.1.23b.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	1.0

## 6.10.2.4.1.23b.2 Downlink

## 6.10.2.4.1.23b.2.1 Transport channel parameters

## 6.10.2.4.1.23b.2.1.1 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124	
	RM attribute	135 to 175	

## 6.10.2.4.1.23b.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.23b.2.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)

## 6.10.2.4.1.23b.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible
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	Spreading factor	128
DPCCH	Number of TFCl bits/slot	2
	Number of TPC bits/slot	2
	Number of Pilot bits/slot	4
DPDCH	Number of data bits/slot	32
	Number of data bits/frame	480

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

6.10.2.4.1.23c.1 Uplink

6.10.2.4.1.23c.1.1 Transport channel parameters

6.10.2.4.1.23c.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236	
	Uplink: Max number of bits/radio frame before rate matching	1 059	
	RM attribute	135 to 175	

6.10.2.4.1.23c.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.23c.1.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)

6.10.2.4.1.23c.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.88

6.10.2.4.1.23c.2 Downlink

6.10.2.4.1.23c.2.1 Transport channel parameters

6.10.2.4.1.23c.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH

	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	32 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336
	TFS	
	TF0, bits	0x336
	TF1, bits	1x336
	TF2, bits	2x336
	TF3, bits	3x336
	TF4, bits	4x336
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	4 236
	RM attribute	135 to 175

#### 6.10.2.4.1.23c.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.23c.2.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)

#### 6.10.2.4.1.23c.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

#### 6.10.2.4.1.23d Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI)+ UL:3.4 DL:3.4 kbps SRBs for DCCH

##### 6.10.2.4.1.23d.1 Uplink

##### 6.10.2.4.1.23d.1.1 Transport channel parameters

##### 6.10.2.4.1.23d.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms	20	

Coding type	TC
CRC, bit	16
Max number of bits/TTI after channel coding	2 124
Uplink: Max number of bits/radio frame before rate matching	1 062
RM attribute	135 to 175

#### 6.10.2.4.1.23d.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.23d.1.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)

#### 6.10.2.4.1.23d.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.88

#### 6.10.2.4.1.23d.2 Downlink

#### 6.10.2.4.1.23d.2.1 Transport channel parameters

#### 6.10.2.4.1.23d.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124	
	RM attribute	135 to 175	

#### 6.10.2.4.1.23d.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.23d.2.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)

#### 6.10.2.4.1.23d.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible
	Spreading factor	64
	DPCCCH	Number of TFCI bits/slot

	DPDCH	Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
		Number of data bits/slot	60
		Number of data bits/frame	900

6.10.2.4.1.24 Void

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

6.10.2.4.1.25.1 Uplink

See clause 6.10.2.4.1.23.1.

6.10.2.4.1.25.2 Downlink

6.10.2.4.1.25.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	64 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	4 236		
RM attribute	130 to 170		

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.25.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

6.10.2.4.1.25.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

- 6.10.2.4.1.26 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.26.1 Uplink
- 6.10.2.4.1.26.1.1 Transport channel parameters
- 6.10.2.4.1.26.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	64 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236	
	Uplink: Max number of bits/radio frame before rate matching	2 118	
	RM attribute	130 to 170	

- 6.10.2.4.1.26.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.26.1.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

- 6.10.2.4.1.26.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.96

- 6.10.2.4.1.26.2 Downlink

See clause 6.10.2.4.1.25.2.

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

- 6.10.2.4.1.27.1 Uplink

See clause 6.10.2.4.1.26.1.

- 6.10.2.4.1.27.2 Downlink

- 6.10.2.4.1.27.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	128 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460	
RM attribute	120 to 160		

#### 6.10.2.4.1.27.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.27.2.1.3 TFCS

TFCS size	10
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

#### 6.10.2.4.1.27.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4 320

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

##### 6.10.2.4.1.28.1 Uplink

##### 6.10.2.4.1.28.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	128 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A

Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8 460
	Uplink: Max number of bits/radio frame before rate matching		4 230
RM attribute		120 to 160	

#### 6.10.2.4.1.28.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.28.1.1.3 TFCS

TFCS size	10
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

#### 6.10.2.4.1.28.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4 800
	Puncturing Limit	0.96

#### 6.10.2.4.1.28.2 Downlink

See clause 6.10.2.4.1.27.2.

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

##### 6.10.2.4.1.29.1 Uplink

See clause 6.10.2.4.1.26.1.

##### 6.10.2.4.1.29.2 Downlink

#### 6.10.2.4.1.29.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		144 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
TF4, bits		8x336	



	TF5, bits	9x336
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	9 516
	RM attribute	140 to 180

#### 6.10.2.4.1.29.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.29.2.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

#### 6.10.2.4.1.29.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
DPCCH	Number of TFCI bits/slot		8
	Number of TPC bits/slot		8
	Number of Pilot bits/slot		16
DPDCH	Number of data bits/slot		288
	Number of data bits/frame		4 320

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

##### 6.10.2.4.1.30.1 Uplink

##### 6.10.2.4.1.30.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB	
RLC	Logical channel type		DTCH	
	RLC mode		AM	
	Payload sizes, bit		320	
	Max data rate, bps		144 000	
	AMD PDU header, bit		16	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	
	TB sizes, bit		336	
	TFS	TF0, bits		0x336
		TF1, bits		1x336
		TF2, bits		2x336
		TF3, bits		4x336
		TF4, bits		8x336
		TF5, bits		9x336
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		9 516	
	Uplink: Max number of bits/radio frame before rate matching		4 758	
	RM attribute		140 to 180	

#### 6.10.2.4.1.30.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.30.1.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

## 6.10.2.4.1.30.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4 800
	Puncturing Limit	0.84

## 6.10.2.4.1.30.2 Downlink

See clause 6.10.2.4.1.29.2.

## 6.10.2.4.1.31 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

## 6.10.2.4.1.31.1 Uplink

See clause 6.10.2.4.1.26.1.

## 6.10.2.4.1.31.2 Downlink

## 6.10.2.4.1.31.2.1 Transport channel parameters

## 6.10.2.4.1.31.2.1.1 Transport channel parameters for Interactive or background / DL:256 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	256 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	N/A (alt. 12x336)
	TF6, bits	N/A (alt. 16x336)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460 (alt. 16 920)	
RM attribute	135 to 175		

## 6.10.2.4.1.31.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.31.2.1.3 TFCS

TFCS size	10 (alt.14)
TFCS	(256 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0))

(TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1))
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6.10.2.4.1.31.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		8
	Number of DPDCH		1
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9 120

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

6.10.2.4.1.32.1 Uplink

See clause 6.10.2.4.1.26.1.

6.10.2.4.1.32.2 Downlink

6.10.2.4.1.32.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
		TF6, bits	N/A (alt. 16x336)
		TF7, bits	N/A (alt. 20x336)
	TF8, bits	N/A (alt. 24x336)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	12 684 (alt. 25 368)	
RM attribute	110 to 150		

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.32.2.1.3 TFCS

TFCS size	12 (alt.18)
TFCS	(384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1),

	(TF8, TF1))
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## 6.10.2.4.1.32.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		8
	Number of DPDCH		1
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9 120

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

6.10.2.4.1.33.1 Uplink

See clause 6.10.2.4.1.28.1.

6.10.2.4.1.33.2 Downlink

See clause 6.10.2.4.1.32.2.

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

6.10.2.4.1.34.1 Uplink

6.10.2.4.1.34.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		384 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
		TF6, bits	16x336(alt. N/A)
		TF7, bits	20x336(alt. N/A)
	TF8, bits	24x336 (alt. N/A)	
	TTI, ms		20 (alt. 10)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		25 368
Uplink: Max number of bits/radio frame before rate matching		12 684	
RM attribute		110-180	

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.34.1.1.3 TFCS

TFCS size	18 (alt.12)
TFCS	(384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1))

## 6.10.2.4.1.34.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Number of DPDCH	1
	Puncturing Limit	0.64

## 6.10.2.4.1.34.2 Downlink

See clause 6.10.2.4.1.32.2.

## 6.10.2.4.1.35 Interactive or background / UL:64 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.35.1 Uplink

See clause 6.10.2.4.1.26.1.

## 6.10.2.4.1.35.2 Downlink

## 6.10.2.4.1.35.2.1 Transport channel parameters

## 6.10.2.4.1.35.2.1.1 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	2 048 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
		TF4, bits	8x656
		TF5, bits	12x656
		TF6, bits	16x656
		TF7, bits	20x656
		TF8, bits	24x656
		TF9, bits	28x656
		TF10, bits	32x656
		TF11, bits	N/A (alt. 36x656)
		TF12, bits	N/A (alt. 40x656)
		TF13, bits	N/A (alt. 44x656)
		TF14, bits	N/A (alt. 48x656)
		TF15, bits	N/A (alt. 52x656)
		TF16, bits	N/A (alt. 56x656)
		TF17, bits	N/A (alt. 60x656)
	TF18, bits	N/A (alt. 64x656)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
CRC, bit	16		

	Max number of bits/TTI after channel coding	64 575 (alt. 129 141)
	RM attribute	130 to 170

#### 6.10.2.4.1.35.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.35.2.1.3 TFCS

TFCS size	22 (alt.38)
TFCS	(2 048 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1) (alt. TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0), (TF15, TF0), (TF16, TF0), (TF17, TF0), (TF18, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0), (TF15, TF0), (TF16, TF0), (TF17, TF0), (TF18, TF0))

#### 6.10.2.4.1.35.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		4
	Number of DPCH		3
	DPCCH	Number of TF1 bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	1 248
Number of data bits/frame		18 720	

6.10.2.4.1.36 Void

6.10.2.4.1.37 Void

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

6.10.2.4.1.38.1 Uplink

6.10.2.4.1.38.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.23.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.38.1.1.4 TFCS

TFCS size	18 (alt. 12)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1))

## 6.10.2.4.1.38.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.96

## 6.10.2.4.1.38.2 Downlink

## 6.10.2.4.1.38.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.23.2.1.1.

## 6.10.2.4.1.38.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.

## 6.10.2.4.1.38.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)

## 6.10.2.4.1.38.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TF1 bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

## 6.10.2.4.1.38a Conversational / speech / 12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.38a.1 Uplink

## 6.10.2.4.1.38a.1.1 Transport channel parameters

## 6.10.2.4.1.38a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.1.1.1.

#### 6.10.2.4.1.38a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		0
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
	TTI, ms		20
	Coding type		CC
	CRC, bit		16
	Max number of bits/TTI after channel coding		0
	Uplink: Max number of bits/radio frame before rate matching		0
	RM attribute		130 to 170

#### 6.10.2.4.1.38a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.38a.1.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)

#### 6.10.2.4.1.38a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.64

#### 6.10.2.4.1.38a.2 Downlink

##### 6.10.2.4.1.38a.2.1 Transport channel parameters

#### 6.10.2.4.1.38a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.2.1.1.

#### 6.10.2.4.1.38a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

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



RM attribute	130 to 170
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## 6.10.2.4.1.38a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

## 6.10.2.4.1.38a.2.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)

## 6.10.2.4.1.38a.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed	
	Spreading factor	128	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

## 6.10.2.4.1.38b Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.38b.1 Uplink

## 6.10.2.4.1.38b.1.1 Transport channel parameters

## 6.10.2.4.1.38b.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.1.1.1.

## 6.10.2.4.1.38b.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068	
	Uplink: Max number of bits/radio frame before rate matching	267	
	RM attribute	135 to 175	

## 6.10.2.4.1.38b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.38b.1.1.4 TFCS

TFCS size	12
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TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1)
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## 6.10.2.4.1.38b.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	1.0

## 6.10.2.4.1.38b.2 Downlink

## 6.10.2.4.1.38b.2.1 Transport channel parameters

## 6.10.2.4.1.38b.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.2.1.1.

## 6.10.2.4.1.38b.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068	
	RM attribute	135 to 175	

## 6.10.2.4.1.38b.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.38b.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1)

## 6.10.2.4.1.38b.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible	
	Spreading factor	64	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

6.10.2.4.1.38c Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38c.1 Uplink

6.10.2.4.1.38c.1.1 Transport channel parameters

6.10.2.4.1.38c.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.1.1.1.

6.10.2.4.1.38c.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.2.4.1.23c.1.1.1.

6.10.2.4.1.38c.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.38c.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF1,TF4,TF1)

6.10.2.4.1.38c.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	1.0

6.10.2.4.1.38c.2 Downlink

6.10.2.4.1.38c.2.1 Transport channel parameters

6.10.2.4.1.38c.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.2.1.1.

6.10.2.4.1.38c.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.2.4.1.23c.2.1.1.

6.10.2.4.1.38c.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.38c.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF1,TF3,TF0),

	(TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF1,TF4,TF1)
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## 6.10.2.4.1.38c.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

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

6.10.2.4.1.38d.1 Uplink

6.10.2.4.1.38d.1.1 Transport channel parameters

6.10.2.4.1.38d.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.1.1.1.

6.10.2.4.1.38d.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTL, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTL after channel coding	4 284		
	Uplink: Max number of bits/radio frame before rate matching	2 142		
	RM attribute	130 to 170		

6.10.2.4.1.38d.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.38d.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)

## 6.10.2.4.1.38d.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.76

## 6.10.2.4.1.38d.2 Downlink

## 6.10.2.4.1.38d.2.1 Transport channel parameters

## 6.10.2.4.1.38d.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.2.1.1.

## 6.10.2.4.1.38d.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320
	Max data rate, bps	64 000	64 000
	AMD PDU header, bit	16	16
MAC	MAC header, bit	4	4
	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	DCH	
	TB sizes, bit	340	
	TFS	TF0, bits	0x340
		TF1, bits	1x340
		TF2, bits	2x340
		TF3, bits	3x340
		TF4, bits	4x340
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 284	
	RM attribute	130 to 170	

## 6.10.2.4.1.38d.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.38d.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0),

	(TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)
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6.10.2.4.1.38d.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.38e Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38e.1 Uplink

6.10.2.4.1.38e.1.1 Transport channel parameters

6.10.2.4.1.38e.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.1.1.1.

6.10.2.4.1.38e.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.1.1.2.

6.10.2.4.1.38e.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.38e.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1)

6.10.2.4.1.38e.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.84

6.10.2.4.1.38e.2 Downlink

6.10.2.4.1.38e.2.1 Transport channel parameters

6.10.2.4.1.38e.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

6.10.2.4.1.38e.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.2.1.2

#### 6.10.2.4.1.38e.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

#### 6.10.2.4.1.38e.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1),

#### 6.10.2.4.1.38e.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

6.10.2.4.1.38f Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 6.10.2.4.1.38f.1 Uplink

#### 6.10.2.4.1.38f.1.1 Transport channel parameters

6.10.2.4.1.38f.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.1.1.1.

6.10.2.4.1.38f.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2.

#### 6.10.2.4.1.38f.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.38f.1.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)

#### 6.10.2.4.1.38f.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	1.0

- 6.10.2.4.1.38f.2 Downlink
- 6.10.2.4.1.38f.2.1 Transport channel parameters
- 6.10.2.4.1.38f.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB
- See clause 6.10.2.4.1.4a.2.1.1.
- 6.10.2.4.1.38f.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB
- See clause 6.10.2.4.1.38b.2.1.2
- 6.10.2.4.1.38f.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1
- 6.10.2.4.1.38f.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)

- 6.10.2.4.1.38f.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

- 6.10.2.4.1.38g Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.38g.1 Uplink
- 6.10.2.4.1.38g.1.1 Transport channel parameters
- 6.10.2.4.1.38g.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB
- See clause 6.10.2.4.1.4a.1.1.1.
- 6.10.2.4.1.38g.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB
- See clause 6.10.2.4.1.23b.1.1.1.
- 6.10.2.4.1.38g.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.1.1.1.
- 6.10.2.4.1.38g.1.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0),



	(TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1)
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#### 6.10.2.4.1.38g.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	0.88

#### 6.10.2.4.1.38g.2 Downlink

##### 6.10.2.4.1.38g.2.1 Transport channel parameters

##### 6.10.2.4.1.38g.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

##### 6.10.2.4.1.38g.2.1.2 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.10.2.4.1.23b.2.1.1.

##### 6.10.2.4.1.38g.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

##### 6.10.2.4.1.38g.2.1.4 TFCS

TFCS size	36
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1)

#### 6.10.2.4.1.38g.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

#### 6.10.2.4.1.38h Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

##### 6.10.2.4.1.38h.1 Uplink

## 6.10.2.4.1.38h.1.1 Transport channel parameters

## 6.10.2.4.1.38h.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.1.1.1.

## 6.10.2.4.1.38h.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.2.4.1.23c.1.1.1.

## 6.10.2.4.1.38h.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.38h.1.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF0,TF0,TF0,TF4,TF0), (TF5,TF4,TF1,TF0,TF0), (TF5,TF4,TF1,TF1,TF0), (TF5,TF4,TF1,TF2,TF0), (TF5,TF4,TF1,TF4,TF0), (TF4,TF3,TF0,TF0,TF0), (TF4,TF3,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF0,TF0,TF0,TF4,TF1), (TF5,TF4,TF1,TF0,TF1), (TF5,TF4,TF1,TF1,TF1), (TF5,TF4,TF1,TF2,TF1), (TF5,TF4,TF1,TF4,TF1), (TF4,TF3,TF0,TF0,TF1), (TF4,TF3,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF4,TF1)

## 6.10.2.4.1.38h.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	1.0

## 6.10.2.4.1.38h.2 Downlink

## 6.10.2.4.1.38h.2.1 Transport channel parameters

## 6.10.2.4.1.38h.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

## 6.10.2.4.1.38h.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.2.4.1.23c.2.1.1.

## 6.10.2.4.1.38h.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.10.2.4.1.38h.2.1.4 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF0,TF0,TF0,TF4,TF0), (TF5,TF4,TF1,TF0,TF0), (TF5,TF4,TF1,TF1,TF0), (TF5,TF4,TF1,TF2,TF0), (TF5,TF4,TF1,TF4,TF0), (TF4,TF3,TF0,TF0,TF0), (TF4,TF3,TF0,TF1,TF0), (TF4,TF3,TF0,TF2,TF0), (TF4,TF3,TF0,TF4,TF0), (TF3,TF2,TF0,TF0,TF0), (TF3,TF2,TF0,TF1,TF0), (TF3,TF2,TF0,TF2,TF0), (TF3,TF2,TF0,TF4,TF0), (TF2,TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF1,TF0), (TF2,TF1,TF0,TF2,TF0), (TF2,TF1,TF0,TF4,TF0), (TF1,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF0,TF0,TF0,TF4,TF1), (TF5,TF4,TF1,TF0,TF1), (TF5,TF4,TF1,TF1,TF1), (TF5,TF4,TF1,TF2,TF1), (TF5,TF4,TF1,TF4,TF1), (TF4,TF3,TF0,TF0,TF1), (TF4,TF3,TF0,TF1,TF1), (TF4,TF3,TF0,TF2,TF1), (TF4,TF3,TF0,TF4,TF1), (TF3,TF2,TF0,TF0,TF1), (TF3,TF2,TF0,TF1,TF1), (TF3,TF2,TF0,TF2,TF1), (TF3,TF2,TF0,TF4,TF1), (TF2,TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1,TF1), (TF2,TF1,TF0,TF2,TF1), (TF2,TF1,TF0,TF4,TF1), (TF1,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF4,TF1)

6.10.2.4.1.38h.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
DPCCH	Number of TFCl bits/slot		8
	Number of TPC bits/slot		4
	Number of Pilot bits/slot		8
DPDCH	Number of data bits/slot		140
	Number of data bits/frame		2 100

6.10.2.4.1.38i Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38i.1 Uplink

6.10.2.4.1.38i.1.1 Transport channel parameters

6.10.2.4.1.38i.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.1.1.1.

6.10.2.4.1.38i.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.10.2.4.1.26.1.1.1.

6.10.2.4.1.38i.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.38i.1.1.4 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)

6.10.2.4.1.38i.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.76

6.10.2.4.1.38i.2 Downlink

6.10.2.4.1.38i.2.1 Transport channel parameters

6.10.2.4.1.38i.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

6.10.2.4.1.38i.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.10.2.4.1.25.2.1.1.

6.10.2.4.1.38i.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.10.2.4.1.38i.2.1.4 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)

6.10.2.4.1.38i.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.38j Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38j.1 Uplink

6.10.2.4.1.38j.1.1 Transport channel parameters

See clause 6.10.2.4.1.38i.1.1

6.10.2.4.1.38j.2 Downlink

6.10.2.4.1.38j.2.1 Transport channel parameters

6.10.2.4.1.38j.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

6.10.2.4.1.38j.2.1.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See clause 6.10.2.4.1.27.2.1.1.

6.10.2.4.1.38j.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.10.2.4.1.38j.2.1.4 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0),

	(TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
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6.10.2.4.1.38j.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
Number of data bits/frame		4 320	

6.10.2.4.1.38k Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (L1 multiplexing)

6.10.2.4.1.38k.1 Uplink

6.10.2.4.1.38k.1.1 Transport channel parameters

6.10.2.4.1.38k.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.1.1.1.

6.10.2.4.1.38k.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.2.4.1.23.1.1.1.

6.10.2.4.1.38k.1.1.3 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.2.4.1.23.1.1.1.

6.10.2.4.1.38k.1.1.4 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.38k.1.1.5 TFCS

TFCS size	54 (alt. 24)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32kbps RAB, 32kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0, TF0), (TF1, TF0, TF0, TF1, TF0, TF0), (TF2, TF1, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF2, TF0, TF0), (TF1, TF0, TF0, TF2, TF0, TF0), (TF2, TF1, TF1, TF2, TF0, TF0), (TF0, TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF0, TF1, TF0), (TF0, TF0, TF0, TF1, TF1, TF0), (TF1, TF0, TF0, TF1, TF1, TF0), (TF2, TF1, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF1, TF0),

	(TF1, TF0, TF0, TF2, TF1, TF0), (TF2, TF1, TF1, TF2, TF1, TF0), (TF0, TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF0, TF2, TF0), (TF0, TF0, TF0, TF1, TF2, TF0), (TF1, TF0, TF0, TF1, TF2, TF0), (TF2, TF1, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF2, TF2, TF0), (TF1, TF0, TF0, TF2, TF2, TF0), (TF2, TF1, TF1, TF2, TF2, TF0), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF0, TF1), (TF0, TF0, TF0, TF1, TF0, TF1), (TF1, TF0, TF0, TF1, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF2, TF0, TF1), (TF1, TF0, TF0, TF2, TF0, TF1), (TF2, TF1, TF1, TF2, TF0, TF1), (TF0, TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF1, TF1, TF1), (TF1, TF0, TF0, TF1, TF1, TF1), (TF2, TF1, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1, TF1), (TF1, TF0, TF0, TF2, TF1, TF1), (TF2, TF1, TF1, TF2, TF1, TF1), (TF0, TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF0, TF2, TF1), (TF0, TF0, TF0, TF1, TF2, TF1), (TF1, TF0, TF0, TF1, TF2, TF1), (TF2, TF1, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF2, TF2, TF1), (TF1, TF0, TF0, TF2, TF2, TF1), (TF2, TF1, TF1, TF2, TF2, TF1) (alt. (TF0, TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0, TF0), (TF1, TF0, TF0, TF1, TF0, TF0), (TF2, TF1, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF0, TF1, TF0), (TF0, TF0, TF0, TF1, TF1, TF0), (TF1, TF0, TF0, TF1, TF1, TF0), (TF2, TF1, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF0, TF1), (TF0, TF0, TF0, TF1, TF0, TF1), (TF1, TF0, TF0, TF1, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF1, TF1, TF1), (TF1, TF0, TF0, TF1, TF1, TF1), (TF2, TF1, TF1, TF1, TF1, TF1))
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6.10.2.4.1.38k.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.8

6.10.2.4.1.38k.2 Downlink

6.10.2.4.1.38k.2.1 Transport channel parameters

6.10.2.4.1.38k.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.2.4.1.4.2.1.1.

6.10.2.4.1.38k.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.2.4.1.23d.2.1.1.

6.10.2.4.1.38k.2.1.3 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.2.4.1.23d.2.1.1.

6.10.2.4.1.38k.2.1.4 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.

6.10.2.4.1.38k.2.1.5 TFCS

TFCS size	54
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32kbps RAB, 32kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0, TF0), (TF1, TF0, TF0, TF1, TF0, TF0), (TF2, TF1, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF2, TF0, TF0), (TF1, TF0, TF0, TF2, TF0, TF0),

	(TF2, TF1, TF1, TF2, TF0, TF0), (TF0, TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF0, TF1, TF0), (TF0, TF0, TF0, TF1, TF1, TF0), (TF1, TF0, TF0, TF1, TF1, TF0), (TF2, TF1, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF1, TF0), (TF1, TF0, TF0, TF2, TF1, TF0), (TF2, TF1, TF1, TF2, TF1, TF0), (TF0, TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF0, TF2, TF0), (TF0, TF0, TF0, TF1, TF2, TF0), (TF1, TF0, TF0, TF1, TF2, TF0), (TF2, TF1, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF2, TF2, TF0), (TF1, TF0, TF0, TF2, TF2, TF0), (TF2, TF1, TF1, TF2, TF2, TF0), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF0, TF1), (TF0, TF0, TF0, TF1, TF0, TF1), (TF1, TF0, TF0, TF1, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF2, TF0, TF1), (TF1, TF0, TF0, TF2, TF0, TF1), (TF2, TF1, TF1, TF2, TF0, TF1), (TF0, TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF1, TF1, TF1), (TF1, TF0, TF0, TF1, TF1, TF1), (TF2, TF1, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1, TF1), (TF1, TF0, TF0, TF2, TF1, TF1), (TF2, TF1, TF1, TF2, TF1, TF1), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF0, TF2, TF1), (TF0, TF0, TF0, TF1, TF2, TF1), (TF1, TF0, TF0, TF1, TF2, TF1), (TF2, TF1, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF2, TF2, TF1), (TF1, TF0, TF0, TF2, TF2, TF1), (TF2, TF1, TF1, TF2, TF2, TF1)
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6.10.2.4.1.38k.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

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

6.10.2.4.1.39.1 Uplink

See clause 6.10.2.4.1.38.1.

6.10.2.4.1.39.2 Downlink

6.10.2.4.1.39.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.25.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.39.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0),



(TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
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6.10.2.4.1.39.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
Number of data bits/frame		2 100	

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

6.10.2.4.1.40.1 Uplink

6.10.2.4.1.40.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.26.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.40.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)

6.10.2.4.1.40.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.76

6.10.2.4.1.40.2 Downlink

See clause 6.10.2.4.1.39.2.

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

6.10.2.4.1.41.1 Uplink

See clause 6.10.2.4.1.40.1.

6.10.2.4.1.41.2 Downlink

6.10.2.4.1.41.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.27.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.41.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)

6.10.2.4.1.41.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
Number of data bits/frame		4 320	

6.10.2.4.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.42.1 Uplink

See clause 6.10.2.4.1.40.1.

6.10.2.4.1.42.2 Downlink

6.10.2.4.1.42.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

6.10.2.4.1.42.2.1.2 Transport channel parameters for Interactive or background / DL:256 kbps / PS RAB

See clause 6.10.2.4.1.31.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.42.2.1.4 TFCS

TFCS size	30 (alt. 42)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 256 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1))

6.10.2.4.1.42.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		8
	Number of DPDCH		1
	DPCCH	Number of TF0 bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
Number of data bits/frame		9 120	

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

6.10.2.4.1.43.1 Uplink

See clause 6.10.2.4.1.40.1.

6.10.2.4.1.43.2 Downlink

6.10.2.4.1.43.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.32.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.43.2.1.4 TFCS

TFCS size	36 (alt. 54)
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TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1))
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6.10.2.4.1.43.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		8
	Number of DPDCH		1
	DPCCH	Number of TFC1 bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9 120

6.10.2.4.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.44.1 Uplink

6.10.2.4.1.44.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.28.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.44.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)=

	(TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
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6.10.2.4.1.44.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4 800
	Puncturing Limit	0.92

6.10.2.4.1.44.2 Downlink

6.10.2.4.1.44.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

6.10.2.4.1.44.2.1.2 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

See clause 6.10.2.4.1.35.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.



## 6.10.2.4.1.44.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		4
	Number of DPDCH		3
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	1 248
Number of data bits/frame		18 720	

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

6.10.2.4.1.45.1 Uplink

6.10.2.4.1.45.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.17.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.45.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)

6.10.2.4.1.45.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.88

6.10.2.4.1.45.2 Downlink

6.10.2.4.1.45.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.17.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.45.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)

#### 6.10.2.4.1.45.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.46 Void

6.10.2.4.1.47 Void

6.10.2.4.1.48 Void

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

6.10.2.4.1.49.1 Uplink

6.10.2.4.1.49.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.13.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.49.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)

#### 6.10.2.4.1.49.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400



Puncturing Limit	0.72
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6.10.2.4.1.49.2 Downlink

6.10.2.4.1.49.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.1.13.2.1.1.

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

See clause 6.10.2.4.1.2.2.11.

6.10.2.4.1.49.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)

6.10.2.4.1.49.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.49a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.49a.1 Uplink

6.10.2.4.1.49a.1.1 Transport channel parameters

6.10.2.4.1.49a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.1.1.1.

6.10.2.4.1.49a.1.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.1.1.1.

6.10.2.4.1.49a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.49a.1.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0),

	(TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
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6.10.2.4.1.49a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.72

6.10.2.4.1.49a.2 Downlink

6.10.2.4.1.49a.2.1 Transport channel parameters

6.10.2.4.1.49a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4a.2.1.1.

6.10.2.4.1.49a.2.1.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.2.1.1.

6.10.2.4.1.49a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.10.2.4.1.49a.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)

6.10.2.4.1.49a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

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

6.10.2.4.1.50.1 Uplink

6.10.2.4.1.50.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.50.1.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)

#### 6.10.2.4.1.50.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4 800
	Puncturing Limit	0.92

#### 6.10.2.4.1.50.2 Downlink

##### 6.10.2.4.1.50.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.2.1.1.

##### 6.10.2.4.1.50.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.50.2.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)

#### 6.10.2.4.1.50.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCl bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4 320

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

#### 6.10.2.4.1.51.1 Uplink

##### 6.10.2.4.1.51.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.1.1.1.

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

See clause 6.10.2.4.1.26.1.1.1.

##### 6.10.2.4.1.51.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.51.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)

#### 6.10.2.4.1.51.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4 800
	Puncturing Limit	0.88

#### 6.10.2.4.1.51.2 Downlink

##### 6.10.2.4.1.51.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.2.1.1.

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

See clause 6.10.2.4.1.25.2.1.1.

##### 6.10.2.4.1.51.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

##### 6.10.2.4.1.51.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)

#### 6.10.2.4.1.51.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4 320

#### 6.10.2.4.1.51a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

##### 6.10.2.4.1.51a.1 Uplink

##### 6.10.2.4.1.51a.1.1 Transport channel parameters

##### 6.10.2.4.1.51a.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.1.1.1.

##### 6.10.2.4.1.51a.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2.

## 6.10.2.4.1.51a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.51a.1.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)

## 6.10.2.4.1.51a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.72

## 6.10.2.4.1.51a.2 Downlink

## 6.10.2.4.1.51a.2.1 Transport channel parameters

## 6.10.2.4.1.51a.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / PS RAB

See clause 6.10.2.4.1.13.2.1.1.

## 6.10.2.4.1.51a.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2.

## 6.10.2.4.1.51a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.51a.2.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)

## 6.10.2.4.1.51a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

## 6.10.2.4.1.51b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.51b.1 Uplink

## 6.10.2.4.1.51b.1.1 Transport channel parameters

## 6.10.2.4.1.51b.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.1.1.1.

## 6.10.2.4.1.51b.1.1.2 Transport channel parameters for Interactive or Background / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
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RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		16 000
MAC	AMD PDU header, bit		16
	MAC header, bit		0
Layer 1	MAC multiplexing		N/A
	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2 124
Uplink: Max number of bits/radio frame before rate matching		531	
RM attribute		135 to 175	

#### 6.10.2.4.1.51b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.51b.1.1.4 TFCS

TFCS size	12
TFCS	(64 kbps Conversational RAB, 16 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)

#### 6.10.2.4.1.51b.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.64

#### 6.10.2.4.1.51b.2 Downlink

See clause 6.10.2.4.1.51.2.

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

##### 6.10.2.4.1.52.1 Uplink

See clause 6.10.2.4.1.51.1.

##### 6.10.2.4.1.52.2 Downlink

##### 6.10.2.4.1.52.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.2.1.1.

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

See clause 6.10.2.4.1.27.2.1.1.

##### 6.10.2.4.1.52.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.52.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)

## 6.10.2.4.1.52.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		8
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9 120

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

6.10.2.4.1.53.1 Uplink

6.10.2.4.1.53.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.1.1.1.

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

See clause 6.10.2.4.1.28.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.53.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)

## 6.10.2.4.1.53.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Puncturing Limit	0.96

6.10.2.4.1.53.2 Downlink

See clause 6.10.2.4.1.52.2.

6.10.2.4.1.54 Void

6.10.2.4.1.55 Void

6.10.2.4.1.56 Interactive or background / 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

## 6.10.2.4.1.56.1 Uplink

## 6.10.2.4.1.56.1.1 Transport channel parameters

## 6.10.2.4.1.56.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB + UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	8 000	8 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080		
	Uplink: Max number of bits/radio frame before rate matching	270		
	RM attribute	135 to 175		

## 6.10.2.4.1.56.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.1.56.1.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF0,TF1), (TF1,TF1)

## 6.10.2.4.1.56.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	1.0

## 6.10.2.4.1.56.2 Downlink

## 6.10.2.4.1.56.2.1 Transport channel parameters

## 6.10.2.4.1.56.2.1.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB + DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	8 000	8 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		



	Max number of bits/TTI after channel coding	1 080
	RM attribute	135 to 175

#### 6.10.2.4.1.56.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.56.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF0,TF1), (TF1,TF1)

#### 6.10.2.4.1.56.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible	
	Spreading factor	128	
	DPCCH	Number of TFBI bits/slot	2
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	32
		Number of data bits/frame	480

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

#### 6.10.2.4.1.57.1 Uplink

#### 6.10.2.4.1.57.1.1 Transport channel parameters

#### 6.10.2.4.1.57.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	4 284		
	Uplink: Max number of bits/radio frame before rate matching	2 142		
	RM attribute	130 to 170		

#### 6.10.2.4.1.57.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.1.57.1.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)=

	(TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
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## 6.10.2.4.1.57.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.92

## 6.10.2.4.1.57.2 Downlink

## 6.10.2.4.1.57.2.1 Transport channel parameters

## 6.10.2.4.1.57.2.1.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	4 284		
RM attribute	130 to 170			

## 6.10.2.4.1.57.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.57.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)

## 6.10.2.4.1.57.2.2 Physical channel parameters

DPCH Downlink	DTX position	Flexible	
	Spreading factor	32	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

- 6.10.2.4.1.58 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.58.1 Uplink
- 6.10.2.4.1.58.1.1 Transport channel parameters
- 6.10.2.4.1.58.1.1.1 Transport channel parameters for Streaming / unknown / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068	
	Uplink: Max number of bits/radio frame before rate matching	534	
	RM attribute	135 to 175	

- 6.10.2.4.1.58.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2.

- 6.10.2.4.1.58.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.58.1.1.4 TFCS

TFCS size	8
TFCS	(16 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1)

- 6.10.2.4.1.58.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	1.0

- 6.10.2.4.1.58.2 Downlink

- 6.10.2.4.1.58.2.1 Transport channel parameters

- 6.10.2.4.1.58.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	640
	Max data rate, bps	64 000
	AMPDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH

	TB sizes, bit	656
TFS	TF0, bits	0x656
	TF1, bits	1x656
	TF2, bits	2x656
	TF3, bits	4x656
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	8 076
	RM attribute	125 to 165

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

See clause 6.10.2.4.1.38b.2.1.2.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.58.2.1.4 TFCS

TFCS size	16
TFCS	(64 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1)

6.10.2.4.1.58.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

6.10.2.4.1.58a Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.58a.1 Uplink

6.10.2.4.1.58a.1.1 Transport channel parameters

6.10.2.4.1.58a.1.1.1 Transport channel parameters for Streaming / unknown / UL:16 kbps / PS RAB

See clause 6.10.2.4.1.58.1.1.1.

6.10.2.4.1.58a.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2.

6.10.2.4.1.58a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.58a.1.1.4 TFCS

See clause 6.10.2.4.1.58.1.1.4.

6.10.2.4.1.58a.1.2 Physical channel parameters

See clause 6.10.2.4.1.58.1.2.

## 6.10.2.4.1.58a.2 Downlink

## 6.10.2.4.1.58a.2.1 Transport channel parameters

## 6.10.2.4.1.58a.2.1.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	128 000	
	AMPDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	3x656
		TF4, bits	4x656
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 076	
RM attribute	125 to 165		

## 6.10.2.4.1.58a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2.

## 6.10.2.4.1.58a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.1.58a.2.1.4 TFCS

TFCS size	20
TFCS	(128 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1),

## 6.10.2.4.1.58a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4 320

## 6.10.2.4.1.59 Conversational / speech / UL:42.8 DL:42.8 kbps / PS RAB + Interactive / UL:16 DL:16 kbps / PS RAB + Interactive / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.2.4.1.59.1 Uplink

## 6.10.2.4.1.59.1.1 Transport channel parameters

## 6.10.2.4.1.59.1.1.1 Transport channel parameters for Conversational / speech / UL:42.8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	920, 304, 96	
	Max data rate, bps	46 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	928, 312, 104	
	TFS	TF0, bits	0x928
		TF1, bits	1x104
		TF2, bits	1x312
		TF3, bits	1x928
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 844	
	Uplink: Max number of bits/radio frame before rate matching	1 422	
	RM attribute	180 to 220	

#### 6.10.2.4.1.59.1.1.2 Transport channel parameters for Interactive / UL:16kbps / PS RAB + UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	16 000	16 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2X340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	2 148		
	Uplink: Max number of bits/radio frame before rate matching	537		
RM attribute	135 to 175			

#### 6.10.2.4.1.59.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1

#### 6.10.2.4.1.59.1.1.4 TFCS

TFCS size	24
TFCS	(42.8 kbps Conversational RAB, Interactive 16kbps+16kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0,TF1, TF0),(TF0, TF1,TF1), (TF0,TF2, TF0), (TF0,TF2, TF1) (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1,TF1, TF0), (TF1, TF1,TF1), (TF1,TF2, TF0), (TF1,TF2, TF1) (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2,TF1, TF0), (TF2, TF1,TF1), (TF2,TF2, TF0), (TF2,TF2, TF1) (TF3, TF0, TF0), (TF3, TF0, TF1), (TF3,TF1, TF0), (TF3, TF1,TF1), (TF3,TF2, TF0), (TF3,TF2, TF1)

#### 6.10.2.4.1.59.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.76

## 6.10.2.4.1.59.2 Downlink

## 6.10.2.4.1.59.2.1 Transport channel parameters

## 6.10.2.4.1.59.2.1.1 Transport channel parameters for Conversational / speech / DL:42.8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	920, 304, 96	
	Max data rate, bps	46 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	928, 312, 104	
	TFS	TF0, bits	0x928
		TF1, bits	1x104
		TF2, bits	1x312
		TF3, bits	1x928
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 844	
RM attribute	180 to 220		

## 6.10.2.4.1.59.2.1.2 Transport channel parameters for Interactive / DL:16kbps / PS RAB + DL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	16 000	16 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
Max number of bits/TTI after channel coding	2 148			
RM attribute	135 to 175			

## 6.10.2.4.1.59.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

## 6.10.2.4.1.59.2.1.4 TFCS

TFCS size	24
TFCS	(42.8 kbps Conversational RAB, Interactive 16kbps+16kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0,TF1, TF0),(TF0, TF1,TF1), (TF0,TF2, TF0), (TF0,TF2, TF1) (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1,TF1, TF0), (TF1, TF1,TF1), (TF1,TF2, TF0), (TF1,TF2, TF1) (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2,TF1, TF0), (TF2, TF1,TF1), (TF2,TF2, TF0), (TF2,TF2, TF1) (TF3, TF0, TF0), (TF3, TF0, TF1), (TF3,TF1, TF0), (TF3, TF1,TF1), (TF3,TF2, TF0), (TF3,TF2, TF1)

## 6.10.2.4.1.59.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
Number of data bits/frame		2 100	

6.10.2.4.1.60 Conversational / speech / UL:42.8 DL:42.8 kbps / PS RAB + Interactive / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.60.1 Uplink

6.10.2.4.1.60.1.1 Transport channel parameters

6.10.2.4.1.60.1.1.1 Transport channel parameters for Conversational / speech / UL:42.8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	920, 304, 96	
	Max data rate, bps	46 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	928, 312, 104	
	TFS	TF0, bits	0x928
		TF1, bits	1x104
		TF2, bits	1x312
		TF3, bits	1x928
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 844	
	Uplink: Max number of bits/radio frame before rate matching	1 422	
RM attribute	180 to 220		

6.10.2.4.1.60.1.1.2 Transport channel parameters for Interactive / UL:16kbps / PS RAB

See clause 6.10.2.4.1.23b.1.1.1

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

See clause 6.10.2.4.1.2.1.1.1

6.10.2.4.1.60.1.1.4 TFCS

TFCS size	24
TFCS	(42.8 kbps Conversational RAB, Interactive 16kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF2, TF0), (TF0, TF2, TF1) (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1, TF1, TF0), (TF1, TF1, TF1), (TF1, TF2, TF0), (TF1, TF2, TF1) (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2, TF1, TF0), (TF2, TF1, TF1), (TF2, TF2, TF0), (TF2, TF2, TF1) (TF3, TF0, TF0), (TF3, TF0, TF1), (TF3, TF1, TF0), (TF3, TF1, TF1), (TF3, TF2, TF0), (TF3, TF2, TF1)

6.10.2.4.1.60.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2 400
	Puncturing Limit	0.76



- 6.10.2.4.1.60.2 Downlink
- 6.10.2.4.1.60.2.1 Transport channel parameters
- 6.10.2.4.1.60.2.1.1 Transport channel parameters for Conversational / speech / DL:4.8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	920, 304, 96	
	Max data rate, bps	46 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	928, 312, 104	
	TFS	TF0, bits	0x928
		TF1, bits	1x104
		TF2, bits	1x312
		TF3, bits	1x928
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 844	
	RM attribute	180 to 220	

- 6.10.2.4.1.60.2.1.2 Transport channel parameters for Interactive / DL:16kbps PS RAB

See clause 6.10.2.4.1.23b.2.1.1

- 6.10.2.4.1.60.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

- 6.10.2.4.1.60.2.1.4 TFCS

TFCS size	24
TFCS	(4.8 kbps Conversational RAB, Interactive 16kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF2, TF0), (TF0, TF2, TF1) (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1, TF1, TF0), (TF1, TF1, TF1), (TF1, TF2, TF0), (TF1, TF2, TF1) (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2, TF1, TF0), (TF2, TF1, TF1), (TF2, TF2, TF0), (TF2, TF2, TF1) (TF3, TF0, TF0), (TF3, TF0, TF1), (TF3, TF1, TF0), (TF3, TF1, TF1), (TF3, TF2, TF0), (TF3, TF2, TF1)

- 6.10.2.4.1.60.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TF0 bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2 100

- 6.10.2.4.1.61 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

- 6.10.2.4.1.61.1 Uplink

- 6.10.2.4.1.61.1.1 Transport channel parameters

- 6.10.2.4.1.61.1.1.1 Transport channel parameters for Conversational / unknown / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
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RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8 000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328 (alt 0, 328) (note)
	TFS	TF0, bits	0x328 (alt 1x0) (note)
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 044
	Uplink: Max number of bits/radio frame before rate matching		261
	RM attribute		135 to 175
NOTE: In case of using this alternative, CRC parity bits are to be attached any time since number of TrBlks are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).			

#### 6.10.2.4.1.61.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2

#### 6.10.2.4.1.61.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1

#### 6.10.2.4.1.61.1.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)

#### 6.10.2.4.1.61.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1 200
	Puncturing Limit	1.0

#### 6.10.2.4.1.61.2 Downlink

##### 6.10.2.4.1.61.2.1 Transport channel parameters

##### 6.10.2.4.1.61.2.1.1 Transport channel parameters for Conversational / unknown / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8 000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328 (alt 0, 328) (note)
	TFS	TF0, bits	0x328 (alt 1x0) (note)
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 044
	RM attribute		135 to 175

NOTE: In case of using this alternative, CRC parity bits are to be attached any time since number of TrBlks are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).
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6.10.2.4.1.61.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.1.61.2.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)

6.10.2.4.1.61.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
Number of data bits/frame		900	

6.10.2.4.1.62 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

6.10.2.4.1.62.1 Uplink

6.10.2.4.1.62.1.1 Transport channel parameters

6.10.2.4.1.62.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3 (note 2)	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181	60	
	Max data rate, bps	12 650			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181	60	
	TFS	TF0, bits	0x72(alt. 1x0) (note 1)	0x181	0x60
		TF1, bits	1x40	1x78	N/A
		TF2 bits	1x54	1x113	N/A
		TF3, bits	1x64	1x181	N/A
		TF4, bits	1x72	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	276	567	0	
	Uplink: Max number of bits/radio frame before rate matching	138	284	0	
	RM attribute	180 to 220	170 to 210	256	
NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					
NOTE 2: RAB subflow #3 does not exist in lu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned.					

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.62.1.1.3 TFCS

TFCS size	10
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow #3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1)

## 6.10.2.4.1.62.1.1.4 TFC subset list

TFC subset list size	3
TFC subset list	<p>0 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1)},</p> <p>1 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1)},</p> <p>2 = {(TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1)}</p>

## 6.10.2.4.1.62.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.84

## 6.10.2.4.1.62.2 Downlink

## 6.10.2.4.1.62.2.1 Transport channel parameters

## 6.10.2.4.1.62.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3 (note 3)	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	0, 40, 54, 64, 72	78, 113, 181	60	
	Max data rate, bps	12 650			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	0, 40, 54, 64, 72	78, 113, 181	60	
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x181	0x60
		TF1, bits	1x40	1x78	N/A
		TF2, bits	1x54	1x113	N/A
		TF3, bits	1x64	1x181	N/A
		TF4, bits	1x72	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	N/A	
Max number of bits/TTI after channel coding	276	567	0		
RM attribute	180 to 220	170 to 210	256		
NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).					
NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).					
NOTE 2: RAB subflow #3 does not exist in lu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned					

## 6.10.2.4.1.62.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

## 6.10.2.4.1.62.2.1.3 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

Higher layer	RAB/signalling RB	SRB#5
	User of Radio Bearer	RRC
RLC	Logical channel type	DCCH
	RLC mode	TM
	Payload sizes, bit	3

	Max data rate, bps	150	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	3 (alt 0, 3) (note)	
	TFS	TF0, bits	0x3 (alt 1x0) (note)
		TF1, bits	1x3
	TTI, ms	20	
	Coding type	CC 1/3	
	CRC, bit	8	
	Max number of bits/TTI before rate matching	57	
RM attribute	155 to 256		

NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.

## 6.10.2.4.1.62.2.1.4 TFCS

TFCS size	20
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH 3.4, DCCH 0.15)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1)

## 6.10.2.4.1.62.2.2 Physical channel parameters

DPCH Downlink	DTX position	Fixed	
	Spreading factor	128	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
Number of data bits/frame		510	

6.10.2.4.1.63 Interactive or background / UL:64 DL:768 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.63.1 Uplink

See clause 6.10.2.4.1.26.1.

6.10.2.4.1.63.2 Downlink

6.10.2.4.1.63.2.1 Transport channel parameters

6.10.2.4.1.63.2.1.1 Transport channel parameters for Interactive or background / DL:768 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	768 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A

Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
		TF6, bits	16x336
		TF7, bits	20x336
		TF8, bits	24x336
		TF9, bits	N/A (alt 28x336)
		TF10, bits	N/A (alt 32x336)
		TF11, bits	N/A (alt 36x336)
		TF12, bits	N/A (alt 40x336)
		TF13, bits	N/A (alt 44x336)
	TF14, bits	N/A (alt 48x336)	
TTI, ms		10 (alt 20)	
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI after channel coding		25 368 (alt 50 736)	
RM attribute		110 to 150	

#### 6.10.2.4.1.63.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

#### 6.10.2.4.1.63.2.1.3 TFCS

TFCS size	18 (alt. 30)
TFCS	(768 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1) (TF9, TF1), (TF10, TF1), (TF11, TF1), (TF12, TF1), (TF13, TF1), (TF14, TF1))

#### 6.10.2.4.1.63.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible	
	Spreading factor		8	
	Number of DPCH		2	
	DPCCH	Number of TF1 bits/slot		8
		Number of TPC bits/slot		8
		Number of Pilot bits/slot		16
	DPDCH	Number of data bits/slot		608
Number of data bits/frame		9 120		

#### 6.10.2.4.2 Combinations on PDSCH and DPCH

6.10.2.4.2.1 Void

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

6.10.2.4.2.2.1 Uplink

See clause 6.10.2.4.1.26.1.

6.10.2.4.2.2.2 Downlink

## 6.10.2.4.2.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB	
RLC	Logical channel type		DTCH	
	RLC mode		AM	
	Payload sizes, bit		320	
	Max data rate, bps		384 000	
	AMD PDU header, bit		16	
MAC	MAC header, bit		18	
	MAC multiplexing		Logical channel multiplexing on a frame by frame basis	
Layer 1	TrCH type		DSCH	
	TB sizes, bit		354	
	TFS	TF0, bits		0x354
		TF1, bits		1x354
		TF2, bits		2x354
		TF3, bits		4 x354
		TF4, bits		8 x354
		TF5, bits		12 x354
		TF6, bits		N/A (alt. 16x354)
		TF7, bits		N/A (alt. 20x354)
		TF8, bits		N/A (alt. 24x354)
	TTI, ms		10 (alt. 20)	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		13 332 (alt. 26 664)	
RM attribute		110 to 150		

## 6.10.2.4.2.2.1.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.2.2.1.3 TFCS

PDSCH	TFCS size	6 (alt.9)
	TFCS	384 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8)
DPCH Downlink associated with PDSCH	TFCS size	2
	TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.2.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh		<b>Interactive or background / 384 kbps / PS RAB, DSCH</b>	
	DTX position		N/A (SingleTrCH)	
	Minimum spreading factor		8	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		<b>3.4 kbps SRB for DCCH, DCH</b>	
	DTX position		N/A (SingleTrCH)	
	Spreading factor		256	
	DPCCH	Number of TFCI bits/slot		2
		Number of TPC bits/slot		2
		Number of Pilot bits/slot		4
	DPDCH	Number of data bits/slot		12
Number of data bits/frame		180		

## 6.10.2.4.2.3 Interactive or background / UL:64 DL:2 048 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

## 6.10.2.4.2.3.1 Uplink

See clause 6.10.2.4.1.26.1.

## 6.10.2.4.2.3.2 Downlink



## 6.10.2.4.2.3.2.1 Transport channel parameters

## 6.10.2.4.2.3.2.1.1 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	2 048 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	18	
	MAC multiplexing	Logical channel multiplexing on a frame by frame basis	
Layer 1	TrCH type	DSCH	
	TB sizes, bit	674	
	TFS	TF0, bits	0x674
		TF1, bits	1x674
		TF2, bits	2x674
		TF3, bits	4 x674
		TF4, bits	8 x674
		TF5, bits	12x674
		TF6, bits	16x674
		TF7, bits	20x674
		TF8, bits	24x674
		TF9, bits	28x674
		TF10, bits	32x674
		TF11, bits	N/A (alt. 36x674)
		TF12, bits	N/A (alt. 40x674)
		TF13, bits	N/A (alt. 44x674)
		TF14, bits	N/A (alt. 48x674)
		TF15, bits	N/A (alt. 52x674)
		TF16, bits	N/A (alt. 56x674)
		TF17, bits	N/A (alt. 60x674)
	TF18, bits	N/A (alt. 64x674)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	66 300 (alt. 132 588)	
	RM attribute	130 to 170	

## 6.10.2.4.2.3.2.1.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

## 6.10.2.4.2.3.2.1.3 TFCS

PDSCH	TFCS size	11 (alt.19)
	TFCS	2 048 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16, TF17, TF18)
DPCH Downlink associated with PDSCH	TFCS size	2
	TFCS	SRBs for DCCH = TF0, TF1

## 6.10.2.4.2.3.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh	<b>Interactive or background / 2 048 kbps / PS RAB, DSCH</b>	
	DTX position	N/A (SingleTrCH)	
	Minimum spreading factor	4	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh	3.4 kbps SRB for DCCH, DCH	
	DTX position	N/A (SingleTrCH)	
	Spreading factor	256	
	DPCCH	Number of TFCI bits/slot	2
		Number of TPC bits/slot	2

		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	12
		Number of data bits/frame	180

6.10.2.4.2.4 Void

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

6.10.2.4.2.5.1 Uplink

See clause 6.10.2.4.1.40.1.

6.10.2.4.2.5.2 Downlink

6.10.2.4.2.5.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

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

See clause 6.10.2.4.2.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.2.5.2.1.4 TFCS

PDSCH	TFCS size	6 (alt.9)
	TFCS	384 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8)
DPCH Downlink associated with PDSCH	TFCS size	6
	TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH) = (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)

6.10.2.4.2.5.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh		<b>Interactive or background / 384 kbps / PS RAB, DSCH</b>	
	DTX position		N/A (SingleTrCH)	
	Minimum spreading factor		8	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		<b>Conversational / speech / 12.2 kbps / CS RAB, DCH + 3.4 kbps SRBs for DCCH. DCH</b>	
	DTX position		Fixed	
	Spreading factor		128	
	DPCCH	Number of TFCI bits/slot		2
		Number of TPC bits/slot		2
		Number of Pilot bits/slot		4
	DPDCH	Number of data bits/slot		32
		Number of data bits/frame		480

6.10.2.4.2.6 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.2.6.1 Uplink

See clause 6.10.2.4.1.40.1.

6.10.2.4.2.6.2 Downlink

6.10.2.4.2.6.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.2.1.1.

6.10.2.4.2.6.2.1.2 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

See clause 6.10.2.4.2.3.2.1.1.

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.2.6.2.1.4 TFCS

PDSCH	TFCS size	11 (alt.19)
	TFCS	2 048 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16, TF17, TF18)
DPCH Downlink associated with PDSCH	TFCS size	6
	TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH) = (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)

6.10.2.4.2.6.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh		<b>Interactive or background / 2 048 kbps / PS RAB, DSCH</b>	
	DTX position		N/A (SingleTrCH)	
	Minimum spreading factor		4	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		<b>Conversational / speech / 12.2 kbps / CS RAB, DCH + 3.4 kbps SRBs for DCCH. DCH</b>	
	DTX position		Fixed	
	Spreading factor		128	
	DPCCH	Number of TFCI bits/slot		2
		Number of TPC bits/slot		2
		Number of Pilot bits/slot		4
	DPDCH	Number of data bits/slot		32
Number of data bits/frame		480		

6.10.2.4.3 Combinations on SCCPCH

6.10.2.4.3.1 Stand-alone signalling RB for PCCH

6.10.2.4.3.1.1 Transport channel parameters

6.10.2.4.3.1.1.1 Transport channel parameter of SRB for PCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		RRC
RLC	Logical channel type		PCCH
	RLC mode		TM
	Payload sizes, bit		240 (alt. 80)
	Max data rate, bps		24 000 (alt. 8 000)
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		PCCH
	TB sizes, bit		240 (alt. 80)
	TFS	TF0, bts	0x240 (alt. 0x80)
		TF1, bits	1x240 (alt. 1x80)
	TTI, ms		10
	Coding type		CC 1/2
CRC, bit		16	

	Max number of bits/TTI before rate matching	528 (alt. 208)
	RM attribute	210 to 250

## 6.10.2.4.3.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for PCCH = TF0, TF1

## 6.10.2.4.3.1.2 Physical channel parameters

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

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

## 6.10.2.4.3.2.1 Transport channel parameters

## 6.10.2.4.3.2.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		Interactive/ Background RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32 000
	AMD PDU header, bit		16
MAC	MAC header, bit		24
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		360
	TFS	TF0, bits	0x360
		TF1, bits	1x360
	TTI, ms		10
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI before rate matching		1 140
	RM attribute		110 to 150

## 6.10.2.4.3.2.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode	UM	UM	AM	AM	AM	TM
	Payload sizes, bit	152	136 or 120 (note)	128	128	128	166
	Max data rate, bps	30 400 (alt. 45 600)	27 200 or 24 000 (alt. 40 800 or 36 000)	25 600 (alt. 38 400)	25 600 (alt. 38 400)	25 600 (alt. 38 400)	33 200 (alt. 49 800)
	AMD/UMD/TrD PDU header, bit	8	8	16	16	16	0
MAC	MAC header, bit	8	24 or 40	24	24	24	2

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	
	MAC multiplexing	6 logical channel multiplexing						
Layer 1	TrCH type	FACH						
	TB sizes, bit	168						
	TFS	TF0, bits	0x168					
		TF1, bits	1x168					
		TF2, bits	2x168					
		TF3, bits	N/A (alt. 3x168)					
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
Max number of bits/TTI before rate matching	752 (alt. 1 136)							
RM attribute	200 to 240							
NOTE: MAC header size and PLC payload size depend on use of U-RNTI or C-RNTI.								

## 6.10.2.4.3.2.1.3 TFCS

TFCS size	4 or 5, (alt. 4, 5 or 6)
TFCS	(SRBs for CCCH/DCCH/BCCH, 32kbps RAB) = (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), [TF1, TF1] (note) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), [TF3, TF0] (note), (TF0, TF1), [TF1, TF1] (note))
NOTE:	These TFCs are available only if SCCPCH can be allocated bigger Tx power than required Tx power for TFC of (TF2, TF0).

## 6.10.2.4.3.2.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	64
	Number of TFCI bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	72
	Number of data bits/frame	1 080

## 6.10.2.4.3.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

## 6.10.2.4.3.2a.1 Transport channel parameters

## 6.10.2.4.3.2a.1.1 Transport channel parameters for Interactive or background / 32 kbps / PS RAB + 32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	32 000	32 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	24	24	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	FACH		
	TB sizes, bit	360		
	TFS	TF0, bits	0x360	
		TF1, bits	1x360	
	TTI, ms	10		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 140		
	RM attribute	110 to 150		

### 6.10.2.4.3.2a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.2.4.3.2.1.2

### 6.10.2.4.3.2a.1.3 TFCS

TFCS size	4 or 5 (alt. 4, 5 or 6)
TFCS	(SRBs for CCCH/DCCH/BCCH, 32kbps RAB + 32kbps RAB) = (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), [TF1, TF1] (note) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), [TF3, TF0] (note), (TF0, TF1), [TF1, TF1] (note))
NOTE:	These TFCs are available only if SCCPCH can be allocated bigger Tx power than required Tx power for TFC of (TF2, TF0).

### 6.10.2.4.3.2a.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	64
	Number of TFCI bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	72
	Number of data bits/frame	1 080

### 6.10.2.4.3.3 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

#### 6.10.2.4.3.3.1 Transport channel parameters

##### 6.10.2.4.3.3.1.1 Transport channel parameters of SRB for Interactive/Background 32 kbps RAB

See clause 6.10.2.4.3.2.1.

##### 6.10.2.4.3.3.1.2 Transport channel parameters of SRB for PCCH

See clause 6.10.2.4.3.1.1.

##### 6.10.2.4.3.3.1.3 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.2.4.3.2.1.2

#### 6.10.2.4.3.3.1.4 TFCS

TFCS size	6, 7 or 8 for 240 bits PCH TrBlk size and TF3 not used (alt 6, 7, 8 or 9 for 80 bits PCH TrBlk size and TF3 not used) (alt 6, 7, 8 or 9 for 240 bits PCH TrBlk size and TF3 used) (alt. 6, 7, 8, 9, 10, or 11 for 80 bits PCH TrBlk size and TF3 used)
TFCS	(SRB for PCCH, SRBs for CCCH/DCCH/BCCH, 32 kbps RAB) = (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), [TF1, TF2, TF0] (see note), (TF0, TF0, TF1), [TF0, TF1, TF1] (see note) for 240 bits PCH TrBlk size and TF3 not used (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), [TF1, TF2, TF0] (see note), (TF0, TF0, TF1), [TF1, TF0, TF1] (see note), [TF0, TF1, TF1] (see note) for 80 bits PCH TrBlk size and TF3 not used) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), [TF1, TF2, TF0] (see note), [TF0, TF3, TF0] (see note), (TF0, TF0, TF1), [TF0, TF1, TF1] (see note) for 240 bits PCH TrBlk size and TF3 used) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), [TF1, TF2, TF0] (see note), [TF0, TF3, TF0] (see note), [TF1, TF3, TF0] (see note), (TF0, TF0, TF1), [TF1, TF0, TF1] (see note), [TF0, TF1, TF1] (see note) for 80 bits PCH TrBlk size and TF3 used)
NOTE:	These TFCs are available only if SCCPCH can be allocated bigger Tx power than required Tx power for TFC of (TF0, TF2, TF0).

### 6.10.2.4.3.3.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	64

	Number of TFCl bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	72
	Number of data bits/frame	1 080

## 6.10.2.4.3.4 RB for CTCH + SRB for CCCH + SRB for BCCH

## 6.10.2.4.3.4.1 Transport channel parameters

## 6.10.2.4.3.4.1.1 Transport channel parameters of RB for CTCH

Higher layer	RAB/signalling RB		N/A
	User of Radio Bearer		BMC
RLC	Logical channel type		CTCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		15 200
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		168
	TFS	TF0, bits	0x168
		TF1, bits	1x168
	TTI, ms		10
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		576
	RM attribute		200 to 240

## 6.10.2.4.3.4.1.2 Transport channel parameters of SRB for CCCH and SRB for BCCH

Higher layer	RAB/signalling RB		SRB#0	SRB#5
	User of Radio Bearer		RRC	RRC
RLC	Logical channel type		CCCH	BCCH
	RLC mode		UM	TM
	Payload sizes, bit		152	166
	Max data rate, bps		15 200	16 600
	AMD/UMD/TrD PDU header, bit		8	0
MAC	MAC header, bit		8	2
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		FACH	
	TB sizes, bit		168	
	TFS	TF0, bits	0x168	
		TF1, bits	1x168	
	TTI, ms		10	
	Coding type		CC 1/3	
	CRC, bit		16	
	Max number of bits/TTI before rate matching		576	
	RM attribute		200 to 240	

## 6.10.2.4.3.4.1.3 TFCS

TFCS size	3
TFCS	(SRBs for CCCH/ BCCH, RB for CTCH) = (TF0, TF0), (TF1, TF0), (TF0, TF1)

## 6.10.2.4.3.4.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	128
	Number of TFCI bits/slot	2
	Number of Pilot bits/slot	0
	Number of data bits/slot	38
	Number of data bits/frame	570

## 6.10.2.4.3.5 64.8kbps RB for MTCH with 80 ms TTI

## 6.10.2.4.3.5.1 Transport channel parameters

## 6.10.2.4.3.5.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	648	
	Max data rate, bps	64800	
	UMD PDU header, bit	8	
MAC	MAC header, bit	8	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	664	
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
	TF8, bits	8x664	
	TTI, ms	80	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI before rate matching	16344		
RM attribute	160		

## 6.10.2.4.3.5.1.2 TFCS

TFCS size	9
TFCS	64 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8

## 6.10.2.4.3.5.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	32
	Number of TFCI bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	152
	Number of data bits/frame	2280



6.10.2.4.3.6 129.6 kbps RB for MTCH with 80 ms TTI

6.10.2.4.3.6.1 Transport channel parameters

6.10.2.4.3.6.1.1 Transport channel parameters for 128 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		129600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		80
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI before rate matching		32679	
RM attribute		160	

6.10.2.4.3.6.1.2 TFCS

TFCS size	17
TFCS	128 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.10.2.4.3.6.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	16
	Number of TFCI bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	312
	Number of data bits/frame	4680

6.10.2.4.3.7 259.2 kbps RB for MTCH with 40 ms TTI

6.10.2.4.3.7.1 Transport channel parameters

6.10.2.4.3.7.1.1 Transport channel parameters for 256 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		259200
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		40
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI before rate matching		32679	
RM attribute		160	

6.10.2.4.3.7.1.2 TFCS

TFCS size	17
TFCS	256 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.10.2.4.3.7.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	8
	Number of TFCI bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	632
	Number of data bits/frame	9480

- 6.10.2.4.3.8 7.6 kbps signalling RB for MCCH
- 6.10.2.4.3.8.1 Transport channel parameters
- 6.10.2.4.3.8.1.1 Transport channel parameters for 7.6 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		160
	TFS	TF0, bits	0x160
		TF1, bits	1x160
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		552
	RM attribute		160

- 6.10.2.4.3.8.1.2 TFCS

TFCS size	2
TFCS	MBMS SRB = TF0, TF1

- 6.10.2.4.3.8.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	256
	Number of TFCI bits/slot	2
	Number of Pilot bits/slot	0
	Number of data bits/slot	18
	Number of data bits/frame	270

- 6.10.2.4.3.9 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH + SRB for MCCH
- 6.10.2.4.3.9.1 Transport channel parameters
- 6.10.2.4.3.9.1.1 Transport channel parameters of SRB for Interactive/Background 32 kbps RAB
- See clause 6.10.2.4.3.2.1.1
- 6.10.2.4.3.9.1.2 Transport channel parameters of SRB for PCCH
- See clause 6.10.2.4.3.1.1.1
- 6.10.2.4.3.9.1.3 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH
- See clause 6.10.2.4.3.2.1.2

## 6.10.2.4.3.9.1.4 Transport channel parameters of SRBs for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		160
	TFS	TF0, bits	0x160
		TF1, bits	1x160
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		552
	RM attribute		215 to 235

## 6.10.2.4.3.9.1.4 TFCS

TFCS size	12 or 13 for 240 bits PCH TrBlk size and TF3 not used
TFCS	(SRB for PCCH, SRBs for CCCH/DCCH/BCCH, 32 kbps RAB, SRB for MCCH) = (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), (TF0, TF0, TF1, TF0), (TF0, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF0, TF1, TF0, TF1), [TF1, TF1, TF0, TF1] (see note), (TF0, TF2, TF0, TF1), (TF0, TF0, TF1, TF1) for 240 bits PCH TrBlk size and TF3 not used
NOTE:	Some TFC's are available only if SCCPCH can be allocated bigger Tx power than required Tx power for TFC (TF0, TF2, TF0, TF0).

## 6.10.2.4.3.9.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	64
	Number of TFCl bits/slot	8
	Number of Pilot bits/slot	0
	Number of data bits/slot	72
	Number of data bits/frame	1080

## 6.10.2.4.4 Combinations on PRACH

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

## 6.10.2.4.4.1.1 Transport channel parameters

## 6.10.2.4.4.1.1.1 Transport channel parameter for Interactive/Background 32 kbps PS RAB, SRB for CCCH, SRB for DCCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	320	166/238 (Rel6, see Note)	136	128	128	128

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
	Max data rate, bps	16 000 (alt. 32 000)	8 300 /11900 Rel 6 (alt.16 600/23800 Rel6, see Note)	6 800 (alt.13 600)	6 400 (alt.12 800)	6 400 (alt.12 800)	6 400 (alt.12 800)	
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16	
MAC	MAC header, bit	24	2	24	24	24	24	
	MAC multiplexing	6 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	360	168/240 (Rel6, see Note)	168	168	168	168	
	TFS	TF0, bits	1x168					
		TF1, bits	1x360					
		TF2, bits (Rel 6, see Note)	1x240					
	TTI, ms	20 (alt. 10)						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI after channel coding	768	384/528 (Rel 6, see Note)	384	384	384	384	
	Max number of bits/ Radio frame before rate matching	384 (alt. 768)	192/264 Rel 6 (alt. 384/5 28 Rel 6, see Note)	192 (alt. 384)	192 (alt. 384)	192 (alt. 384)	192 (alt. 384)	

## 6.10.2.4.4.1.1.2 TFCS

TFCS size	2, 3 (in Rel 6 , see Note)
TFCS	32 kbps + SRBs for CCCH/ DCCH = TF0, TF1, TF2 (in Rel 6 , see Note)

## 6.10.2.4.4.1.2 Physical channel parameters

PRACH	Minimum Spreading factor	64 (alt. 32)
	Max number of data bits/radio frame	600 (alt. 1 200)
	Puncturing Limit	1

NOTE: In Release 6 UEs shall use the TF/TFC as indicated in the IE "Additional Dynamic Transport Format Information for CCCH" and the IE "Additional RACH TFCS for CCCH" for CCCH if available. In this configuration the indicated TF / TFC will be transmitted in these IEs.

## 6.10.2.4.4.2 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

## 6.10.2.4.4.2.1 Transport channel parameters

## 6.10.2.4.4.2.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB, Interactive/Background 32 kbps PS RAB, SRB for CCCH, SRB for DCCH

Higher layer	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background d RAB	Interactive/ Background d RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH

Higher layer	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	Interactive/Background RAB	Interactive/Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
	RLC mode	AM	AM	TM	UM	AM	AM	AM	
	Payload sizes, bit	320	320	166/238 (Rel6, see Note)	136	128	128	128	
	Max data rate, bps	16 000 (alt. 32 000)	16 000 (alt. 32 000)	83 000 / 11900 Rel 6 (alt. 16 600/23800 Rel6, see Note)	6 800 (alt. 13 600)	6 400 (alt. 12 800)	6 400 (alt. 12 800)	6 400 (alt. 12 800)	
	AMD/UMD/TrD PDU header, bit	16	16	0	8	16	16	16	
MAC	MAC header, bit	24	24	2	24	24	24	24	
	MAC multiplexing	7 logical channel multiplexing							
Layer 1	TrCH type	RACH							
	TB sizes, bit	360	360	168/240 (Rel6, see Note)	168	168	168	168	
	TFS	TF0, bits	1x168						
		TF1, bits	1x360						
		TF2, bits	1x240						
	TTI, ms	20 (alt. 10)							
	Coding type	CC 1/2							
	CRC, bit	16							
	Max number of bits/TTI after channel coding	768	768	384/528 (Rel 6, see Note)	384	384	384	384	
	Max number of bits/ Radio frame before rate matching	384 (alt. 768)	384 (alt. 768)	192/264 (alt. 384/528 Rel 6, see Note)	192 (alt. 384)	192 (alt. 384)	192 (alt. 384)	192 (alt. 384)	

## 6.10.2.4.4.2.1.2 TFCS

TFCS size	2, 3 (in Rel 6, see Note)
TFCS	32 kbps RAB+ 32 kbps RAB + SRBs for CCCH/ DCCH = TF0, TF1, TF2 (in Rel 6, see Note)

## 6.10.2.4.4.2.2 Physical channel parameters

PRACH	Minimum Spreading factor	64 (alt. 32)
	Max number of data bits/radio frame	600 (alt. 1 200)
	Puncturing Limit	1

NOTE: In Release 6 UEs shall use the TF/TFC as indicated in the IE "Additional Dynamic Transport Format Information for CCCH" and the IE "Additional RACH TFCS for CCCH" for CCCH if available. In this configuration the indicated TF / TFC will be transmitted in these IEs.

- 6.10.2.4.4.3 (void)
- 6.10.2.4.4.3.1 (void)
- 6.10.2.4.4.3.1.1 (void)
- 6.10.2.4.4.3.1.1.1 (void)
- 6.10.2.4.4.3.1.1.2 (void)
- 6.10.2.4.4.3.1.2 (void)
- 6.10.2.4.4.3.2 (void)
- 6.10.2.4.4.3.2.1 (void)
- 6.10.2.4.4.3.2.1.1 (void)
- 6.10.2.4.4.3.2.1.1.1 (void)
- 6.10.2.4.4.3.2.1.1.2 (void)
- 6.10.2.4.4.3.2.2 (void)
- 6.10.2.4.4.3.2.2.1 Physical (void)

#### 6.10.2.4.5 Combinations on DPCH and HS-PDSCH

- 6.10.2.4.5.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.5.1.1 Uplink
- See clause 6.10.2.4.1.26.1.
- 6.10.2.4.5.1.2 Downlink
- 6.10.2.4.5.1.2.1 Transport channel parameters
- 6.10.2.4.5.1.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.2.4.5.1.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

		<b>Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2</b>	<b>Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>	<b>Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320 (alt. 640)	320 (alt. 640)	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336 (alt. 656)	336 (alt. 656)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/MAC-ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms	2 ms
	Coding type	TC	TC	TC

	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				

#### 6.10.2.4.5.1.2.1.2 Transport channel parameters for DCH

##### 6.10.2.4.5.1.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

##### 6.10.2.4.5.1.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

#### 6.10.2.4.5.1.2.2 Physical channel parameters

##### 6.10.2.4.5.1.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

##### 6.10.2.4.5.1.2.2.2 Physical channel parameters on HS-PDSCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE HS-DSCH Physical Layer category 1 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	2, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.2 Mbps, (alt. 400 kbps)

UE HS-DSCH Physical Layer category 2 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	2, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.2 Mbps, (alt. 600 kbps)]

UE HS-DSCH Physical Layer category 3 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	3, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.8 Mbps, (alt. 900 kbps)

UE HS-DSCH Physical Layer category 4 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	3, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.8 Mbps, (alt. 1.2 Mbps)

UE HS-DSCH Physical Layer category 5 (Rel-5 and later releases; QPSK or 16QAM):



HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.65 Mbps, (alt. 3.6 Mbps)

UE HS-DSCH Physical Layer category 6 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.65 Mbps, (alt. 3.65 Mbps)

UE HS-DSCH Physical Layer category 7 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	7.2 Mbps, (alt. 7.2 Mbps)

UE HS-DSCH Physical Layer category 8 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	7.2 Mbps, (alt. 7.2 Mbps)

UE HS-DSCH Physical Layer category 9 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	10.1 Mbps, (alt. 10.1 Mbps)

UE HS-DSCH Physical Layer category 10 (Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	14.0 Mbps, (alt. 10.8 Mbps)

UE HS-DSCH Physical Layer category 11 (Rel-5 and later releases; QPSK):

HS-PDSCH	Number of processes	3, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	900 kbps, (alt. 450 kbps)

UE HS-DSCH Physical Layer category 12 (Rel-5 and later releases; QPSK):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.8 Mbps, (alt. 1.8 Mbps)

UE HS-DSCH Physical Layer category 13 (Rel-7 and later releases; QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	17.6 Mbps, (alt. 16.2 Mbps)

UE HS-DSCH Physical Layer category 14 (Rel-7 and later releases; QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	21.1 Mbps, (alt. 16.2 Mbps)

UE HS-DSCH Physical Layer category 15 (Rel-7 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	11.7 Mbps, (alt. 11.7Mbps)

UE HS-DSCH Physical Layer category 15 (Rel-7 and later releases; MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	23.4 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 16 (Rel-7 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	14.0 Mbps, (alt. 14.0 Mbps)

UE HS-DSCH Physical Layer category 16 (Rel-7 and later releases; MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	28,0 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 17 (Rel-7 and later releases; QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	17.6 Mbps, (alt. 16.2 Mbps)

UE HS-DSCH Physical Layer category 17 (Rel-7 and later releases; MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	23,4 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 18 (Rel-7 and later releases; QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	21.1 Mbps, (alt. 16.2 Mbps)

UE HS-DSCH Physical Layer category 18 (Rel-7 and later releases; MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	28.0 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 19 (Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	35.3 Mbps, (alt. 32.4 Mbps)

UE HS-DSCH Physical Layer category 20 (Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes

	Max Data Rate	42.2 Mbps, (alt. 32.4 Mbps)
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UE HS-DSCH Physical Layer category 21 (Rel-8 and later releases; Dual-Cell + QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	23.4 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 22 (Rel-8 and later releases; Dual-Cell + QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	28.0 Mbps, (alt. 21.6 Mbps)

UE HS-DSCH Physical Layer category 23 (Rel-8 and later releases; Dual-Cell + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	35.3 Mbps, (alt. 32.4 Mbps)

UE HS-DSCH Physical Layer category 24 (Rel-8 and later releases; Dual-Cell + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	42.2 Mbps, (alt. 32.4 Mbps)

UE HS-DSCH Physical Layer category 25 (Rel-9 and later releases; Dual-Cell + MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	46.7 Mbps, (alt. 43.2 Mbps)

UE HS-DSCH Physical Layer category 26 (Rel-9 and later releases; Dual-Cell + MIMO + QPSK or 16QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	55.9 Mbps, (alt. 43.2 Mbps)

UE HS-DSCH Physical Layer category 27 (Rel-9 and later releases; Dual-Cell + MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	70.6 Mbps, (alt. 64.8 Mbps)

UE HS-DSCH Physical Layer category 28 (Rel-9 and later releases; Dual-Cell + MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	12, (alt. 16)
	Process memory size	Split equally among all processes
	Max Data Rate	84.4 Mbps, (alt. 64.8 Mbps)

6.10.2.4.5.1a Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.1a.1 Uplink

See clause 6.10.2.4.1.28.1.

- 6.10.2.4.5.1 a.2 Downlink
- 6.10.2.4.5.1 a.2.1 Transport channel parameters
- 6.10.2.4.5.1 a.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.2.4.5.1 a.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.10.2.4.5.1.2.1.1.1.
- 6.10.2.4.5.1 a.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.1 a.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1.
- 6.10.2.4.5.1 a.2.1.2.2 TFCS
- See clause 6.10.2.4.1.2.2.1.2.
- 6.10.2.4.5.1 a.2.2 Physical channel parameters
- 6.10.2.4.5.1 a.2.2.1 Physical channel parameters on DPCH
- See clause 6.10.2.4.1.2.2.2.
- 6.10.2.4.5.1 a.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.10.2.4.5.1.2.2.2.
- 6.10.2.4.5.2 Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.5.2.1 Uplink
- See clause 6.10.2.4.1.34.1.
- 6.10.2.4.5.2.2 Downlink
- 6.10.2.4.5.2.2.1 Transport channel parameters
- 6.10.2.4.5.2.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.2.4.5.2.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.10.2.4.5.1.2.1.1.1.
- 6.10.2.4.5.2.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.2.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1.
- 6.10.2.4.5.2.2.1.2.2 TFCS
- See clause 6.10.2.4.1.2.2.1.2.
- 6.10.2.4.5.2.2.2 Physical channel parameters
- 6.10.2.4.5.2.2.2.1 Physical channel parameters on DPCH
- See clause 6.10.2.4.1.2.2.2.
- 6.10.2.4.5.2.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.3.1 Uplink

6.10.2.4.5.3.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

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

See clause 6.10.2.4.1.34.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.5.3.1.1.4 TFCS

TFCS size	54 (alt. 36)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1))

6.10.2.4.5.3.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Number of DPDCH	1
	Puncturing Limit	0.60

6.10.2.4.5.3.2 Downlink

6.10.2.4.5.3.2.1 Transport channel parameters

- 6.10.2.4.5.3.2.1.1 Transport channel parameters for HS-DSCH  
See clause 6.10.2.4.5.1.2.1.1.1.
- 6.10.2.4.5.3.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.3.2.1.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB  
See clause 6.10.2.4.1.4.2.1.1.
- 6.10.2.4.5.3.2.1.2.2 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH  
See clause 6.10.2.4.1.2.2.1.1.
- 6.10.2.4.5.3.2.1.2.3 TFCS  
See clause 6.10.2.4.1.4.2.1.3.
- 6.10.2.4.5.3.2.2 Physical channel parameters
- 6.10.2.4.5.3.2.2.1 Physical channel parameters on DPCH  
See clause 6.10.2.4.1.4.2.2.
- 6.10.2.4.5.3.2.2.2 Physical channel parameters on HS-PDSCH  
See clause 6.10.2.4.5.1.2.2.2.
- 6.10.2.4.5.3a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.5.3a.1 Uplink  
See clause 6.10.2.4.1.40.1.
- 6.10.2.4.5.3a.2 Downlink
- 6.10.2.4.5.3a.2.1 Transport channel parameters
- 6.10.2.4.5.3a.2.1.1 Transport channel parameters for HS-DSCH  
See clause 6.10.2.4.5.1.2.1.1.
- 6.10.2.4.5.3a.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.3a.2.1.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB  
See clause 6.10.2.4.1.4.2.1.1.
- 6.10.2.4.5.3a.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH  
See clause 6.10.2.4.1.2.2.1.1.
- 6.10.2.4.5.3a.2.1.2.3 TFCS  
See clause 6.10.2.4.1.4.2.1.3.
- 6.10.2.4.5.3a.2.2 Physical channel parameters
- 6.10.2.4.5.3a.2.2.1 Physical channel parameters on DPCH  
See clause 6.10.2.4.1.4.2.2.
- 6.10.2.4.5.3a.2.2.2 Physical channel parameters on HS-PDSCH  
See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.4 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.4.1 Uplink

6.10.2.4.5.4.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.13.1.1.1.

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

See clause 6.10.2.4.1.34.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.5.4.1.1.4 TFCS

TFCS size	36 (alt. 24)
TFCS	(64 kbps RAB, 384 kbps RAB , DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF6, TF0), (TF1, TF6, TF0), (TF0, TF7, TF0), (TF1, TF7, TF0), (TF0, TF8, TF0), (TF1, TF8, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1), (TF0, TF6, TF1), (TF1, TF6, TF1), (TF0, TF7, TF1), (TF1, TF7, TF1), (TF0, TF8, TF1), (TF1, TF8, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1))

6.10.2.4.5.4.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Number of DPDCH	1
	Puncturing Limit	0.52

6.10.2.4.5.4.2 Downlink

6.10.2.4.5.4.2.1 Transport channel parameters

6.10.2.4.5.4.2.1.1 Transport channel parameters for HS-DSCH

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.5.4.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.2.4.1.13.2.1.1.

6.10.2.4.5.4.2.1.2.2 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.5.4.2.1.2.3 TFCS

See clause 6.10.2.4.1.13.2.1.3.

6.10.2.4.5.4.2.2 Physical channel parameters

6.10.2.4.5.4.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.13.2.2.

6.10.2.4.5.4.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.4a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.4a.1 Uplink

See clause 6.10.2.4.1.51.1.

6.10.2.4.5.4a.2 Downlink

6.10.2.4.5.4a.2.1 Transport channel parameters

6.10.2.4.5.4a.2.1.1 Transport channel parameters for HS-DSCH

See clause 6.10.2.4.5.1.2.1.1.

6.10.2.4.5.4a.2.1.2 Transport channel parameters for DCH

6.10.2.4.5.4a.2.1.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.2.1.1.

6.10.2.4.5.4a.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.5.4a.2.1.2.3 TFCS

See clause 6.10.2.4.1.13.2.1.3.

6.10.2.4.5.4a.2.2 Physical channel parameters

6.10.2.4.5.4a.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.13.2.2.

6.10.2.4.5.4a.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.5 Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH  
6.10.2.4.5.5.1 Uplink

6.10.2.4.5.5.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320
	Max data rate, bps	384 000	384 000
	AMD PDU header, bit	16	16
MAC	MAC header, bit	4	4



	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	DCH	
	TB sizes, bit	340	
	TFS	TF0, bits	0x340
		TF1, bits	1x340
		TF2, bits	2x340
		TF3, bits	4x340
		TF4, bits	8x340
		TF5, bits	12x340
	TTI, ms	10	
	Coding type	TC	
CRC, bit	16		
	Max number of bits/TTI after channel coding	12 828	
	Uplink: Max number of bits/radio frame before rate matching	12 828	
	RM attribute	110-180	

#### 6.10.2.4.5.5.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

#### 6.10.2.4.5.5.1.1.3 TFCS

TFCS size	12
TFCS	(384 kbps RAB + 384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

#### 6.10.2.4.5.5.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Number of DPDCH	1
	Puncturing Limit	0.64

#### 6.10.2.4.5.5.2 Downlink

##### 6.10.2.4.5.5.2.1 Transport channel parameters

##### 6.10.2.4.5.5.2.1.1 Transport channel parameters for HS-DSCH

##### 6.10.2.4.5.5.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

##### 6.10.2.4.5.5.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

##### 6.10.2.4.5.5.2.1.2 Transport channel parameters for DCH

##### 6.10.2.4.5.5.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

##### 6.10.2.4.5.5.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

##### 6.10.2.4.5.5.2.2 Physical channel parameters

##### 6.10.2.4.5.5.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.10.2.4.5.5.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.5a Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.5a.1 Uplink

See clause 6.10.2.4.1.57.1.

6.10.2.4.5.5a.2 Downlink

6.10.2.4.5.5a.2.1 Transport channel parameters

6.10.2.4.5.5a.2.1.1 Transport channel parameters for HS-DSCH

6.10.2.4.5.5a.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.5.5a.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.5.5a.2.1.2 Transport channel parameters for DCH

6.10.2.4.5.5a.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.5.5a.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.10.2.4.5.5a.2.2 Physical channel parameters

6.10.2.4.5.5a.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.10.2.4.5.5a.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

- 6.10.2.4.5.6 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.5.6.1 Uplink
- 6.10.2.4.5.6.1.1 Transport channel parameters
- 6.10.2.4.5.6.1.1.1 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	128000	
	AM PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8076	
	Uplink: Max number of bits/radio frame before rate matching	4038	
RM attribute	125-165		

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

See clause 6.10.2.4.1.28.1.1.1.

- 6.10.2.4.1.6.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

- 6.10.2.4.1.6.1.1.4 TFCS

TFCS size	40
TFCS	(128 kbps RAB, 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1)

- 6.10.2.4.1.6.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9600
	Puncturing Limit	0.96

- 6.10.2.4.5.6.2 Downlink
- 6.10.2.4.5.6.2.1 Transport channel parameters
- 6.10.2.4.5.6.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.2.4.5.6.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [max bit rate depending on UE category] kbps / PS RAB

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2	Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2	Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	640 (alt. 320)	640 (alt. 320)	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	656 (alt. 336)	656 (alt. 336)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/MAC-ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms	2 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				

- 6.10.2.4.5.6.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

- 6.10.2.4.5.6.2.1.2 Transport channel parameters for DCH

- 6.10.2.4.5.6.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

- 6.10.2.4.5.6.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.10.2.4.5.6.2.2 Physical channel parameters

6.10.2.4.5.6.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.10.2.4.5.6.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.7 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.7.1 Uplink

6.10.2.4.5.7.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1.

6.10.2.4.5.7.1.1.2 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

See clause 6.10.2.4.5.6.1.1.1.

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

See clause 6.10.2.4.1.28.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.1.7.1.1.5 TFCS

TFCS size	62
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF2,TF2,TF0), (TF1,TF0,TF0,TF2,TF2,TF0), (TF2,TF1,TF1,TF2,TF2,TF0), (TF0,TF0,TF0,TF3,TF2,TF0), (TF1,TF0,TF0,TF3,TF2,TF0), (TF2,TF1,TF1,TF3,TF2,TF0), (TF0,TF0,TF0,TF1,TF3,TF0), (TF1,TF0,TF0,TF1,TF3,TF0), (TF2,TF1,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF2,TF3,TF0), (TF1,TF0,TF0,TF2,TF3,TF0), (TF2,TF1,TF1,TF2,TF3,TF0), (TF0,TF0,TF0,TF3,TF3,TF0), (TF1,TF0,TF0,TF3,TF3,TF0), (TF2,TF1,TF1,TF3,TF3,TF0), (TF0,TF0,TF0,TF2,TF4,TF0), (TF1,TF0,TF0,TF2,TF4,TF0), (TF2,TF1,TF1,TF2,TF4,TF0), (TF0,TF0,TF0,TF3,TF4,TF0), (TF1,TF0,TF0,TF3,TF4,TF0), (TF2,TF1,TF1,TF3,TF4,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1), (TF0,TF0,TF0,TF2,TF2,TF1), (TF1,TF0,TF0,TF2,TF2,TF1), (TF2,TF1,TF1,TF2,TF2,TF1), (TF0,TF0,TF0,TF3,TF2,TF1), (TF1,TF0,TF0,TF3,TF2,TF1), (TF2,TF1,TF1,TF3,TF2,TF1), (TF0,TF0,TF0,TF1,TF3,TF1), (TF1,TF0,TF0,TF1,TF3,TF1), (TF2,TF1,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF2,TF3,TF1), (TF1,TF0,TF0,TF2,TF3,TF1), (TF2,TF1,TF1,TF2,TF3,TF1), (TF0,TF0,TF0,TF3,TF3,TF1), (TF1,TF0,TF0,TF3,TF3,TF1), (TF2,TF1,TF1,TF3,TF3,TF1), (TF0,TF0,TF0,TF2,TF4,TF1), (TF1,TF0,TF0,TF2,TF4,TF1), (TF2,TF1,TF1,TF2,TF4,TF1), (TF0,TF0,TF0,TF3,TF4,TF1), (TF1,TF0,TF0,TF3,TF4,TF1), (TF2,TF1,TF1,TF3,TF4,TF1)

## 6.10.2.4.1.7.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9600
	Puncturing Limit	0.88

## 6.10.2.4.5.7.2 Downlink

## 6.10.2.4.5.7.2.1 Transport channel parameters

## 6.10.2.4.5.7.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.2.4.5.7.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [max bit rate depending on UE category] kbps / PS RAB

See clause 6.10.2.4.5.6.2.1.1.1.

## 6.10.2.4.5.7.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

## 6.10.2.4.5.7.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.2.4.1.4.2.1.1.

## 6.10.2.4.5.7.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

## 6.10.2.4.5.7.2.1.2.3 TFCS

See clause 6.10.2.4.1.4.2.1.3.

## 6.10.2.4.5.7.2.2 Physical channel parameters

## 6.10.2.4.5.7.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

## 6.10.2.4.5.7.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

## 6.10.2.4.5.8 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

## 6.10.2.4.5.8.1 Uplink

## 6.10.2.4.5.8.1.1 Transport channel parameters

## 6.10.2.4.5.8.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See clause 6.10.2.4.1.62.1.1.1

## 6.10.2.4.5.8.1.1.2 Transport Channel parameters for Interactive or background / UL: 384 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	384 000

	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
	TTI, ms	10	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	12 684		
Uplink: Max number of bits/radio frame before rate matching	12 684		
RM attribute	110 to 180		

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.5.8.1.1.4 TFCS

TFCS size	60
TFCS	<p>((RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)=          (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0),          (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1),          (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1),          (TF4,TF3,TF0,TF0,TF1),</p> <p>(TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0),          (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1),          (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1),          (TF4,TF3,TF0,TF1,TF1),</p> <p>(TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0),          (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1),          (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1),          (TF4,TF3,TF0,TF2,TF1),</p> <p>(TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0),          (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1),          (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1),          (TF4,TF3,TF0,TF3,TF1),</p> <p>(TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0),          (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1),          (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1),          (TF4,TF3,TF0,TF4,TF1),</p> <p>(TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0),          (TF3,TF2,TF0,TF5,TF0), (TF4,TF3,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1),          (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1), (TF3,TF2,TF0,TF5,TF1),          (TF4,TF3,TF0,TF5,TF1)</p>

6.10.2.4.5.8.1.1.5 TFC subset list

TFC subset list size	3
TFC subset list	<p>0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1)},</p> <p>1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF3,TF2,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1), (TF3,TF2,TF0,TF5,TF1)},</p> <p>2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF3,TF2,TF0,TF5,TF0), (TF4,TF3,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1), (TF3,TF2,TF0,TF5,TF1), (TF4,TF3,TF0,TF5,TF1)}</p>

6.10.2.4.5.8.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	4
	Max number of DPDCH data bits/radio frame	9 600
	Number of DPDCH	1
	Puncturing Limit	0.60



- 6.10.2.4.5.8.2 Downlink
- 6.10.2.4.5.8.2.1 Transport channel parameters
- 6.10.2.4.5.8.2.1.1 Transport channel parameters for HS-DSCH
- See clause 6.10.2.4.5.1.2.1.1
- 6.10.2.4.5.8.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.8.2.1.2.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB
- See clause 6.10.2.4.1.62.2.1.1
- 6.10.2.4.5.8.2.1.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1
- 6.10.2.4.5.8.2.1.2.3 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH
- See clause 6.10.2.4.1.62.2.1.3
- 6.10.2.4.5.8.2.1.2.4 TFCS
- See clause 6.10.2.4.1.62.2.1.4
- 6.10.2.4.5.8.2.2 Physical channel parameters
- 6.10.2.4.5.8.2.2.1 Physical channel parameters on DPCH
- See clause 6.10.2.4.1.62.2.2
- 6.10.2.4.5.8.2.2.2 Physical Channel parameters on HS-PDSCH
- See clause 6.10.2.4.5.1.2.2.1
- 6.10.2.4.5.9 Streaming MBMS PTP / unknown / UL:16 DL: [max bit rate depending on UE category] kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.5.9.1 Uplink
- 6.10.2.4.5.9.1.1 Transport channel parameters
- 6.10.2.4.5.9.1.1.1 Transport channel parameters for Streaming MBMS PTP / unknown / UL:16 kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16000	
	AM PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1068	
	Uplink: Max number of bits/radio frame before rate matching	534	
	RM attribute	135-175	

## 6.10.2.4.5.9.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

## 6.10.2.4.5.9.1.1.3 TFCS

TFCS size	4
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

## 6.10.2.4.5.9.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.80

- 6.10.2.4.5.9.2 Downlink
- 6.10.2.4.5.9.2.1 Transport channel parameters
- 6.10.2.4.5.9.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.2.4.5.9.2.1.1.1 MAC-d flow parameters for Streaming MBMS PTP / unknown / DL: [max bit rate depending on UE category] kbps / PS RAB

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2	Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2	Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	640	640	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	656	656	Flexible
	MAC-hs/MAC-ehs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms	2 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				

- 6.10.2.4.5.9.2.1.2 Transport channel parameters for DCH
- 6.10.2.4.5.9.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1.
- 6.10.2.4.5.9.2.1.2.2 TFCS
- See clause 6.10.2.4.1.2.2.1.2.
- 6.10.2.4.5.9.2.2 Physical channel parameters
- 6.10.2.4.5.9.2.2.1 Physical channel parameters on DPCH
- See clause 6.10.2.4.1.2.2.2.

## 6.10.2.4.5.9.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.5.10 Streaming MBMS PTP / unknown / UL:16 DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.5.10.1 Uplink

6.10.2.4.5.10.1.1 Transport channel parameters

6.10.2.4.5.10.1.1.1 Transport channel parameters for Streaming MBMS PTP / unknown / UL:16 kbps / PS RAB

See clause 6.10.2.4.5.9.1.1.1.

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

See clause 6.10.2.4.1.57.1.1.1.

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.5.10.1.1.4 TFCS

TFCS size	20
TFCS	(16 kbps RAB, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1)

6.10.2.4.5.10.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	0.68

6.10.2.4.5.10.2 Downlink

6.10.2.4.5.10.2.1 Transport channel parameters

6.10.2.4.5.10.2.1.1 Transport channel parameters for HS-DSCH

6.10.2.4.5.10.2.1.1.1 MAC-d flow parameters for Streaming MBMS PTP / unknown / DL: [max bit rate depending on UE category] kbps / PS RAB

See clause 6.10.2.4.5.9.2.1.1.1.

6.10.2.4.5.10.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.5.10.2.1.1.3 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.5.10.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.2.4.1.2.2.1.1.

6.10.2.4.5.10.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.10.2.4.5.10.2.2 Physical channel parameters

6.10.2.4.5.10.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.10.2.4.5.10.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.6 Combinations on HS-PDSCH and E-DPDCH

6.10.2.4.6.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.10.2.4.6.1.1 Uplink

6.10.2.4.6.1.1.1 Transport channel parameters

6.10.2.4.6.1.1.1.1 Transport channel parameters for E-DCH

6.10.2.4.6.1.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 2	Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE 2	Alt 3 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320	320	Flexible from 80 up to 12000 (NOTE 3)
	Max data rate, bps	Depends on UE category and TTI		
	AMD PDU header, bit	16		
MAC	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336	336	Flexible from 96 up to 12016
	MAC type	MAC-e/es	MAC-i/is	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24 or 32 (NOTE 4)	24 or 32 (NOTE 4)
Layer 1	TrCH type	E-DCH		
	TTI	10ms (alt. 2ms) (NOTE 1)		
	Coding type	TC		
	CRC, bit	24		
NOTE 1: The support of 2ms TTI depends on the UE E-DCH physical layer category. For UE E-DCH physical layer categories 8 and 9 only 2 ms TTI is valid.				
NOTE 2: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) or 3 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.				
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				
<b>NOTE 4: <u>MAC-i/is fixed header size is 24 bits for single cell E-DCH operation (TSN field length is 6 bits) or 32 bits for Dual Cell E-DCH operation (TSN field length is 14 bits).</u></b>				

6.10.2.4.6.1.1.1.2 Transport channel parameters for DCH

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

See clause 6.10.2.4.1.2.1.1.1.

6.10.2.4.6.1.1.2 Physical channel parameters

6.10.2.4.6.1.1.2.1 Physical channel parameters on E-DPDCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE E-DPDCH Physical Layer category 1:

E-DPDCH	Number of processes	4	
	Modulation	QPSK	
	TTI	10 ms	
	Max Data Rate	0.711 Mbps	

UE E-DPDCH Physical Layer category 2:

E-DPDCH	Number of processes	4	8
	Modulation	QPSK	QPSK
	TTI	10 ms	2 ms
	Max Data Rate	1.4484 Mbps	1.399 Mbps

UE E-DPDCH Physical Layer category 3:

E-DPDCH	Number of processes	4
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	Modulation	QPSK
	TTI	10 ms
	Max Data Rate	1.4484 Mbps

UE E-DPDCH Physical Layer category 4:

E-DPDCH	Number of processes	4	8
	Modulation	QPSK	QPSK
	TTI	10 ms	2 ms
	Max Data Rate	2.0 Mbps	2.2886 Mbps

UE E-DPDCH Physical Layer category 5:

E-DPDCH	Number of processes	4
	Modulation	QPSK
	TTI	10 ms
	Max Data Rate	2.0 Mbps

UE E-DPDCH Physical Layer category 6:

E-DPDCH	Number of processes	4	8
	Modulation	QPSK	QPSK
	TTI	10 ms	2 ms
	Max Data Rate	2.0 Mbps	5.742Mbps

UE E-DPDCH Physical Layer category 7 (QPSK or 16QAM):

E-DPDCH	Number of processes	4	8
	Modulation	QPSK	QPSK (16QAM)
	TTI	10 ms	2 ms
	Max Data Rate	2.0 Mbps	11.498 Mbps

UE E-DPDCH Physical Layer category 8 (Dual-cell + QPSK):

E-DPDCH	Number of processes	8
	Modulation	QPSK
	TTI	2 ms
	Max Data Rate	11.484 Mbps

UE E-DPDCH Physical Layer category 9 (Dual-cell + QPSK or 16QAM):

E-DPDCH	Number of processes	8
	Modulation	QPSK (16QAM)
	TTI	2 ms
	Max Data Rate	22.996 Mbps

6.10.2.4.6.1.1.2.2 Physical channel parameters for DPCH

See clause 6.10.2.4.1.2.1.2

6.10.2.4.6.1.2 Downlink

See clause 6.10.2.4.5.1.2.

6.10.2.4.6.1a Stand-alone UL: [max bit rate depending on UE category and TTI] DL:[max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.10.2.4.6.1a.1 Uplink

6.10.2.4.6.1a.1.1 Transport channel parameters

6.10.2.4.6.1a.1.1.1 Transport channel parameters for E-DCH

6.10.2.4.6.1a.1.1.1.1 MAC-d flow parameters for Stand-alone UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2

6.10.2.4.6.1a.1.2 Physical channel parameters

6.10.2.4.6.1a.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.10.2.4.6.1a.2 Downlink

6.10.2.4.6.1a.2.1 Transport channel parameters

6.10.2.4.6.1a.2.1.1 Transport channel parameters for HS-DSCH

6.10.2.4.6.1a.2.1.1.1 MAC-d flow parameters for Stand-alone DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2

6.10.2.4.6.1a.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

6.10.2.4.6.1a.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.6.2 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

6.10.2.4.6.2.1 Uplink

6.10.2.4.6.2.1.1 Transport channel parameters

6.10.2.4.6.2.1.1.1 Transport channel parameters for E-DCH

6.10.2.4.6.2.1.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

6.10.2.4.6.2.1.1.1.2 MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

		Alt 1 Fixed RLC + MAC-e/es (Rel-6 and later releases) NOTE 2				Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE 2			
Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128	136	128	128	128
	Max data rate, bps	Depends on UE category and TTI							
	AMD PDU header, bit	8	16	16	16	8	16	16	16
MAC	MAC-es multiplexing	4 logical channel multiplexing				4 logical channel multiplexing			
	MAC-d PDU size, bit	144				144			
	MAC type	MAC-e/es				MAC-i/is			



	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	E-DCH
	TTI	10ms (alt. 2ms) (NOTE 1)	10ms (alt. 2ms) (NOTE 1)
	Coding type	TC	TC
	CRC, bit	24	24
NOTE 1: The support of 2ms TTI depends on the UE category.			
NOTE 2: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) then this shall be explicitly stated in the test case.			

#### 6.10.2.4.6.2.1.2 Physical channel parameters

##### 6.10.2.4.6.2.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

##### 6.10.2.4.6.2.2 Downlink

See clause 6.10.2.4.5.1.2.

#### 6.10.2.4.6.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

##### 6.10.2.4.6.3.1 Uplink

See clause 6.10.2.4.6.2.

#### 6.10.2.4.6.3.1.2 Physical channel parameters

##### 6.10.2.4.6.3.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

##### 6.10.2.4.6.3.2 Downlink

#### 6.10.2.4.6.3.2.1 Transport channel parameters

##### 6.10.2.4.6.3.2.1.1 Transport channel parameters for HS-DSCH

#### 6.10.2.4.6.3.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

## 6.10.2.4.6.3.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2				Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2			
Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128	136	128	128	128
	Max data rate, bps	Depends on UE category (NOTE 1)							
	AMD PDU header, bit	8	16	16	16	8	16	16	16
MAC	MAC-d header, bit	4	4	4	4	0			
	MAC multiplexing	4 logical channel multiplexing				N/A			
	MAC-d PDU size, bit	148				144			
	MAC-hs Type	MAC-hs				MAC-ehs			
	MAC-hs header fixed part, bit	21				24			
Layer 1	TrCH type	HS-DSCH				HS-DSCH			
	TTI	2 ms				2 ms			
	Coding type	TC				TC			
	CRC, bit	24				24			
	Applicable modulation schemes	QPSK, 16QAM				QPSK, 16QAM, 64QAM			
	Applicable with MIMO	No				Yes			
	Applicable with Dual-Cell HSDPA	No				Yes			
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).									
NOTE 2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) then this shall be explicitly stated in the test case.									

#### 6.10.2.4.6.3.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

#### 6.10.2.4.6.3.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.10.2.4.5.1.2.2.2.

#### 6.10.2.4.6.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

##### 6.10.2.4.6.4.1 Uplink

##### 6.10.2.4.6.4.1.1 Transport channel parameters

##### 6.10.2.4.6.4.1.1.1 Transport channel parameters for E-DCH

##### 6.10.2.4.6.4.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

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

See clause 6.10.2.4.1.4.1.1.1.

##### 6.10.2.4.6.4.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

##### 6.10.2.4.6.4.1.1.4 TFCS

See clause 6.10.2.4.1.4.1.1.3.

##### 6.10.2.4.6.4.1.2 Physical channel parameters

##### 6.10.2.4.6.4.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

##### 6.10.2.4.6.4.1.2.2 Physical channel parameters on DCH

See clause 6.10.2.4.1.4.1.2.

##### 6.10.2.4.6.4.2 Downlink

See clause 6.10.2.4.5.3.2.

#### 6.10.2.4.6.5 Streaming or interactive or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

##### 6.10.2.4.6.5.1 Uplink

##### 6.10.2.4.6.5.1.1 Transport channel parameters

##### 6.10.2.4.6.5.1.1.1 Transport channel parameters for E-DCH

MAC-e multiplexing between all MAC-d flows in the same MAC-e PDU shall be configured.

##### 6.10.2.4.6.5.1.1.1.1 MAC-d flow #1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

6.10.2.4.6.5.1.1.1.2 MAC-d flow #2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

6.10.2.4.6.5.1.1.1.3 MAC-d flow #3 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2.

6.10.2.4.6.5.1.2 Physical channel parameters

6.10.2.4.6.5.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.10.2.4.6.5.2 Downlink

See clause 6.10.2.4.5.6.2.

6.10.2.4.6.6 Conversational / unknown or speech / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)

6.10.2.4.6.6.1 Uplink

6.10.2.4.6.6.1.1 Transport channel parameters

6.10.2.4.6.6.1.1.1 Transport channel parameters for E-DCH

6.10.2.4.6.6.1.1.1.1 MAC-d flow #1 parameters for Conversational / unknown or speech / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 2	Alt 2 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	0	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	88, 104, 136, 152, 168, 184, 200, 216, 280, 288, 304, 336 (alt 328)	Flexible from 88 up to 12000 (NOTE 3)
	Max data rate, bps	Depends on UE category and TTI	
	UMD PDU header, bit	8	
MAC	MAC multiplexing	N/A	
	MAC-d PDU size, bit	96, 112, 144, 160, 176, 192, 208, 224, 288, 296, 312, 344 (alt 336)	Flexible from 96 up to 12008
	MAC type	MAC-e/es	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	
	TTI	10ms (alt. 2ms) (NOTE 1)	
	Coding type	TC	
	CRC, bit	24	
NOTE 1: The support of 2ms TTI depends on the UE category			
NOTE 2: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.			
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

6.10.2.4.6.6.1.1.1.2 MAC-d flow #2 parameters for Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

6.10.2.4.6.6.1.1.1.3 MAC-d flow #3 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2.

6.10.2.4.6.6.1.2 Physical channel parameters

6.10.2.4.6.6.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.10.2.4.6.6.2 Downlink

6.10.2.4.6.6.2.1 Transport channel parameters

## 6.10.2.4.6.6.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.2.4.6.6.2.1.1.1 MAC-d flow#1 parameters for Conversational / unknown or speech / DL: [max bit rate depending on UE category] kbps / PS RAB

		<b>Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2</b>	<b>Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>	<b>Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>
Higher Layer	RAB/Signalling RB	<b>RAB</b>		
RLC	Logical channel type	DTCH		
	RLC mode	UM		
	Payload sizes, bit	104, 136, 152, 168, 184, 216, 288, 336 (alt 328 )	104, 136, 152, 168, 184, 216, 288, 336 (alt 328 )	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	UMD PDU header, bit	8	8	8
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	112 , 144, 160, 176, 192, 224, 296, 344 (alt 336)	112 , 144, 160, 176, 192, 224, 296, 344 (alt 336)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms	2 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).			
NOTE 2:	Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.			
NOTE 3:	The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

## 6.10.2.4.6.6.2.1.1.2 MAC-d flow#2 parameters for Streaming or Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

## 6.10.2.4.6.6.2.1.1.3 MAC-d flow#3 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2.

## 6.10.2.4.6.6.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

## 6.10.2.4.6.6.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

## 6.10.2.4.6.7 Conversational / unknown or speech / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate

depending on UE category] / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH (REL-6)

- 6.10.2.4.6.7.1 Uplink
- 6.10.2.4.6.7.1.1 Transport channel parameters
- 6.10.2.4.6.7.1.1.1 Transport channel parameters for E-DCH
- 6.10.2.4.6.7.1.1.1.1 MAC-d flow #1 parameters for Conversational / unknown or speech / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 2	Alt 2 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	0	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	88, 104, 136, 152, 168, 184, 200, 216, 280, 288, 304, 328 (alt 336)	Flexible from 88 up to 12000 (NOTE 3)
	Max data rate, bps	Depends on UE category and TTI	
	UMD PDU header, bit	8	
MAC	MAC multiplexing	N/A	
	MAC-d PDU size, bit	96, 112, 144, 160, 176, 192, 208, 224, 288, 296, 312, 336 (alt 344)	Flexible from 96 up to 12008
	MAC type	MAC-e/es	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	
	TTI	10ms (alt. 2ms) (NOTE 1)	
	Coding type	TC	
	CRC, bit	24	
NOTE 1: The support of 2ms TTI depends on the UE category			
NOTE 2: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.			
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

- 6.10.2.4.6.7.1.1.1.2 MAC-d flow #2 parameters for Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

- 6.10.2.4.6.7.1.1.1.3 MAC-d flow #3 parameters for Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1.

- 6.10.2.4.6.7.1.1.1.4 MAC-d flow #4 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2.

6.10.2.4.6.7.1.2 Physical channel parameters

6.10.2.4.6.7.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.10.2.4.6.7.2 Downlink

6.10.2.4.6.7.2.1 Transport channel parameters

6.10.2.4.6.7.2.1.1 Transport channel parameters for HS-DSCH

6.10.2.4.6.7.2.1.1.1 MAC-d flow#1 parameters for Conversational / unknown or speech / DL: [max bit rate depending on UE category] kbps / PS RAB

		<b>Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2</b>	<b>Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>	<b>Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2</b>
Higher Layer	RAB/Signalling RB	<b>RAB</b>		
RLC	Logical channel type	DTCH		
	RLC mode	UM		
	Payload sizes, bit	104, 136, 152, 168, 184, 216, 288, 328 (alt 336 )	104, 136, 152, 168, 184, 216, 288, 328 (alt 336 )	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	UMD PDU header, bit	8	8	8
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	112 , 144, 160, 176, 192, 224, 296, 336 (alt 344)	112 , 144, 160, 176, 192, 224, 296, 336 (alt 344)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms	2 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).				
NOTE 2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				
NOTE 3: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				

6.10.2.4.6.7.2.1.1.2 MAC-d flow#2 parameters for Streaming or Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.10.2.4.6.7.2.1.1.3 MAC-d flow#3 parameters for Streaming or Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.



6.10.2.4.6.7.2.1.1.4 MAC-d flow#4 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2.

6.10.2.4.6.7.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

6.10.2.4.6.7.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.10.2.4.6.8 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

6.10.2.4.6.8.1 Uplink

6.10.2.4.6.8.1.1 Transport channel parameters

6.10.2.4.6.8.1.1.1 Transport channel parameters for E-DCH

6.10.2.4.6.8.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.10.2.4.6.1.1.1.1.1

6.10.2.4.6.8.1.1.2 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See clause 6.10.2.4.1.62.1.1.1

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

See clause 6.10.2.4.1.2.1.1.1

6.10.2.4.6.8.1.1.4 TFCS

See clause 6.10.2.4.1.62.1.1.3

6.10.2.4.6.8.1.1.5 TFC subset list

See clause 6.10.2.4.1.62.1.1.4

6.10.2.4.6.8.1.2 Physical channel parameters

6.10.2.4.6.8.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1

6.10.2.4.6.8.1.2.2 Physical channel parameters on DCH

See clause 6.10.2.4.1.62.1.2

6.10.2.4.6.8.2 Downlink

See clause 6.10.2.4.5.8.2

- 6.10.2.4.6.9 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH
- 6.10.2.4.6.9.1 Uplink
- 6.10.2.4.6.9.1.1 Transport channel parameters
- 6.10.2.4.6.9.1.1.1 Transport channel parameters for E-DCH
- 6.10.2.4.6.9.1.1.1.1 MAC-d flow #1 parameters for Conversational / speech / UL:(12.2, 7,75, 5.9, 4.75) kbps / CS RAB (non-scheduled)

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 3	Alt 2 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 3
Higher layer	RAB/Signalling RB	RAB	
PDCP	Header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	48, 104, 128, 168, 256	Flexible from 48 up to up to 12000 (NOTE 4)
	Max data rate, bps	Depends on UE category and TTI	
	UMD PDU header, bit	8	
MAC	MAC multiplexing	N/A	
	MAC-d PDU size, bit	56, 112, 136, 176, 264 (non-scheduled) NOTE1	Flexible
	MAC type	MAC-e/es	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	
	TTI	10ms (alt. 2ms) (NOTE 2)	
	Coding type	TC	
	CRC, bit	24	
NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC			
NOTE 2: The support of 2ms TTI depends on the UE category			
NOTE 3: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.			
NOTE 4: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

- 6.10.2.4.6.9.1.1.1.2 MAC-d flow #2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2.

- 6.10.2.4.6.9.1.2 Physical channel parameters

- 6.10.2.4.6.9.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

## 6.10.2.4.6.9.2 Downlink

## 6.10.2.4.6.9.2.1 Transport channel parameters

## 6.10.2.4.6.9.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.2.4.6.9.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(12.2, 7,75, 5.9, 4.75) kbps / CS RAB

		Alt 1 RLC + MAC-hs (Rel-5 and later releases) NOTE2	Alt 2 RLC + MAC-ehs (Rel-7 and later releases) NOTE2
Higher Layer	RAB/Signalling RB	RAB	
PDCP	Header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	48, 104, 128, 168, 256	48, 104, 128, 168, 256
	Max data rate, bps	depends on UE category NOTE1	
	UMD PDU header, bit	8	8
MAC	MAC-d header, bit	0	0
	MAC multiplexing	N/A	N/A
	MAC-d PDU size, bit	56, 112, 136, 176, 264	56, 112, 136, 176, 264
	MAC-hs Type	MAC-hs	MAC-ehs
	MAC-hs/ehs header fixed part, bit	21	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms
	Coding type	TC	TC
	CRC, bit	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes
	Applicable with Dual-Cell HSDPA	No	Yes
NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).			
NOTE2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternative 2 (Fixed RLC + MAC-ehs) then this shall be explicitly stated in the test case.			

## 6.10.2.4.6.9.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2.

## 6.10.2.4.6.9.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

## 6.10.2.4.6.9.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

- 6.10.2.4.6.10 Conversational / speech / UL:(12.65, 8.85, 6.6) kbps DL: (12.65, 8.85, 6.6) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH
- 6.10.2.4.6.10.1 Uplink
- 6.10.2.4.6.10.1.1 Transport channel parameters
- 6.10.2.4.6.10.1.1.1 Transport channel parameters for E-DCH
- 6.10.2.4.6.10.1.1.1.1 MAC-d flow#1 parameters for Conversational / speech / UL:(12.65, 8.85, 6.6) kbps / CS RAB (non-scheduled)

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 3	Alt 2 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 3
Higher layer	RAB/Signalling RB	RAB	
PDCP	Header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	48, 144, 192, 264	Flexible from 48 up to up to 12000 (NOTE 4)
	Max data rate, bps	Depends on UE category and TTI	
	UMD PDU header, bit	8	
MAC	MAC multiplexing	N/A	
	MAC-d PDU size, bit	56, 152, 200, 272 (non-scheduled) NOTE1	Flexible
	MAC type	MAC-e/es	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	
	TTI	10ms (alt. 2ms) (NOTE 2)	
	Coding type	TC	
	CRC, bit	24	
NOTE 1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC			
NOTE 2: The support of 2ms TTI depends on the UE category			
NOTE 3: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.			
NOTE 4: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

- 6.10.2.4.6.10.1.1.1.2. MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2.

- 6.10.2.4.6.10.1.2 Physical channel parameters

- 6.10.2.4.6.10.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

## 6.10.2.4.6.10.2 Downlink

## 6.10.2.4.6.10.2.1 Transport channel parameters

## 6.10.2.4.6.10.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.2.4.6.10.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(12.65, 8.85, 6.6) kbps / CS RAB

		Alt 1 RLC + MAC-hs (Rel-5 and later releases) NOTE2	Alt 2 RLC + MAC-ehs (Rel-7 and later releases) NOTE2
Higher Layer	RAB/Signalling RB	RAB	
PDCP	Header size, bit	8	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	48, 144, 192, 264	48, 144, 192, 264
	Max data rate, bps	depends on UE category NOTE1	
	UMD PDU header, bit	8	8
MAC	MAC-d header, bit	0	0
	MAC multiplexing	N/A	N/A
	MAC-d PDU size, bit	56, 152, 200, 272	56, 152, 200, 272
	MAC-hs Type	MAC-hs	MAC-ehs
	MAC-hs/ehs header fixed part, bit	21	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms
	Coding type	TC	TC
	CRC, bit	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes
	Applicable with Dual-Cell HSDPA	No	Yes
NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).			
NOTE2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternative 2 (Fixed RLC + MAC-ehs) then this shall be explicitly stated in the test case.			

## 6.10.2.4.6.10.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2.

## 6.10.2.4.6.10.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

## 6.10.2.4.6.10.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

## 6.10.2.4.7 Combinations on PRACH and HS-DSCH

6.10.2.4.7.1 Interactive/Background / UL:32 DL: [max bit rate depending on UE category] with fixed or flexible RLC and MAC-ehs / PS RAB + SRBs for CCCH + DCCH on RACH and SRB with fixed RLC and MAC-ehs on HS-DSCH / DL:QPSK

6.10.2.4.7.1.1 Uplink

6.10.2.4.7.1.1.1 Transport channel parameters

6.10.2.4.7.1.1.1.1 Transport channel for Interactive/Background / UL: 32 kbps / PS RAB + SRBs for CCCH + DCCH

See clause 6.10.2.4.4.1.1.1

6.10.2.4.7.1.1.1.2 TFCS

See clause 6.10.2.4.4.1.1.2

6.10.2.4.7.1.1.2 Physical channel parameters

See clause 6.10.2.4.4.1.2

6.10.2.4.7.1.1.3 Downlink

6.10.2.4.7.1.1.3.1 Transport channel parameters

6.10.2.4.7.1.1.3.2 Transport channel parameters for HS-DSCH

6.10.2.4.7.1.1.3.2.1 MAC-ehs queue id#0 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

		<b>Fixed RLC + MAC-ehs (Rel-7 and later releases)</b>	
Higher layer	RAB/Signalling RB	SRB#0	SRB#1
RLC	Logical channel type	CCCH	DCCH
	RLC mode	UM	UM
	Payload sizes, bit	136	136
	Max data rate, bps	Depends on UE Category (NOTE1)	
	UMD PDU header, bit	8	8
MAC	MAC-d header, bit	0	
	MAC multiplexing	N/A	
	MAC-d PDU size, bit	144 (Note 2)	
	MAC-c header, bit	0	0 or 32 (Note 3)
	MAC-hs Type	MAC-ehs	
	MAC-ehs header fixed part, bit	24	
Layer 1	TrCH type	HS-DSCH	
	TTI	2 ms	
	Coding type	TC	
	CRC, bit	24	
	Applicable modulation schemes	QPSK, 16QAM	

NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]).
NOTE 2: MAC-d PDU size is equal to RLC PDU size as there is no MAC-d header. Therefore RLC PDU size is commonly used and referenced in 3GPP TS 25.331 [34].
NOTE 3: MAC-c header can be either 0 or 32 bits (U-RNTI = 32 bits) for SRB1. The U-RNTI is only included as MAC-c header to MAC-d PDU for DCCH (SRB#1 only) when common H-RNTI is used (see 3GPP TS 25.321 [38]).

6.10.2.4.7.1.1.3.2.2 MAC-ehs queue id#1 parameters for DL: [max bit rate depending on UE category]  
SRBs for HS-DSCH

		Fixed RLC + MAC-ehs (Rel-7 and later releases)		
Higher layer	RAB/Signalling RB	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH
	RLC mode	AM	AM	AM
	Payload sizes, bit	128	128	128
	Max data rate, bps	Depends on UE Category (NOTE1)		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0		
	MAC multiplexing	N/A		
	MAC-d PDU size, bit	144 (Note 2)		
	MAC-hs Type	MAC-ehs		
	MAC-ehs header fixed part, bit	24		
Layer 1	TrCH type	HS-DSCH		
	TTI	2ms		
	Coding type	TC		
	CRC, bit	24		
	Applicable modulation schemes	QPSK, 16QAM		
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: MAC-d PDU size is equal to RLC PDU size as there is no MAC-d header. Therefore RLC PDU size is commonly used and referenced in 3GPP TS 25.331 [34].				

6.10.2.4.7.1.1.3.2.3 MAC-ehs queue id#2 parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

		Alt 1 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 4	Alt 2 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 4
Higher layer	RAB/Signalling RB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	Flexible up to 12000 (Note 2)
	Max data rate, bps	depends on UE category (NOTE 1)	depends on UE category (NOTE 1)
	AMD PDU header, bit	16	16
MAC	MAC-d header, bit	0	0
	MAC multiplexing	N/A	N/A
	MAC-d PDU size, bit	336	Flexible (Note 3)
	MAC-hs Type	MAC-ehs	MAC-ehs
	MAC-ehs header fixed part, bit	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH
	TTI	2 ms	2 ms
	Coding type	TC	TC
	CRC, bit	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]).			
NOTE 2: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			
NOTE 3: MAC-d PDU size is equal to RLC PDU size as there is no MAC-d header. Therefore RLC PDU size is commonly used and referenced in 3GPP TS 25.331 [34].			
NOTE 4: Alternative 1 with Fixed RLC is the default configuration. For test cases that use alternative 2 (Flexible RLC) then this shall be explicitly stated in the test case.			

#### 6.10.2.4.7.1.1.3.2.4 Transport channel parameters of SRB for PCCH

See clause 6.10.2.4.3.1.1.

#### 6.10.2.4.7.1.1.3.6 Transport channel parameters of SRB for BCCH

Higher layer	RAB/signalling RB	SRB
	User of Radio Bearer	RRC
RLC	Logical channel type	BCCH
	RLC mode	TM
	Payload sizes, bit	144
	Max data rate, bps	Depends on UE category
	TrD PDU header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bits	144 (Note 1)
	MAC-hs Type	MAC-ehs
	MAC-ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI, ms	2ms
	Coding type	TC
	CRC, bit	24
	Applicable modulation scheme	QPSK



NOTE 1: MAC-d PDU size is equal to RLC PDU size as there is no MAC-d header. Therefore RLC PDU size is commonly used and referenced in 3GPP TS 25.331 [34]

#### 6.10.2.4.7.1.1.4 Physical channel parameters

##### 6.10.2.4.7.1.1.4.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

### 6.10.3 RAB and signalling RB for TDD

#### 6.10.3.1 RABs and signalling RBs

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

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

**Table 6.10.3.1.1: Prioritized RABs**

#	Traffic class <sup>[3]</sup>	SSD <sup>[3]</sup>	Max. rate, kbps	CS/PS
1	Conversational	Speech	UL:12.2 DL:12.2	CS
1a	Conversational	Speech	UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75)	CS
2	Conversational	Speech	UL:10.2 DL:10.2	CS
2a	Conversational	Speech	UL:(10.2 , 6.7, 5.9, 4.75) DL:10.2, 6.7, 5.9, 4.75)	CS
3	Conversational	Speech	UL:7.95 DL:7.95	CS
4	Conversational	Speech	UL:7.4 DL:7.4	CS
4a	Conversational	Speech	UL:(12.2 7.95 5.9 4.75, DL:(12.2 7.95 5.9 4.75)	CS
5	Conversational	Speech	UL:6.7 DL:6.7	CS
6	Conversational	Speech	UL:5.9 DL:5.9	CS
7	Conversational	Speech	UL:5.15 DL:5.15	CS
8	Conversational	Speech	UL:4.75 DL:4.75	CS
9	Conversational	Unknown	UL:28.8 DL:28.8	CS
10	Conversational	Unknown	UL:64 DL:64	CS
11	Conversational	Unknown	UL:32 DL:32	CS
11a	Conversational	Unknown	UL:8 DL:8	CS
12	Streaming	Unknown	UL:14.4 DL:14.4	CS
13	Streaming	Unknown	UL:28.8 DL:28.8	CS
14	Streaming	Unknown	UL:57.6 DL:57.6	CS
15	Void			
15a	Streaming	Unknown	UL:16 DL:64	PS
16	Void			
17	Void			
18	Void			
19	Void			
20	Interactive or Background	N/A	UL:32 DL:8	PS
20a	Interactive or Background	N/A	UL:8 DL:8	PS
20b	Interactive or Background	N/A	UL:16 DL:16	PS
20c	Interactive or Background	N/A	UL:32 DL:32	PS
21	Void			
22	Interactive or Background	N/A	UL:32 DL:64	PS
23	Interactive or Background	N/A	UL:64 DL:64	PS
24	Interactive or Background	N/A	UL:64 DL:128	PS
25	Interactive or Background	N/A	UL:128 DL:128	PS
26	Interactive or Background	N/A	UL:64 DL:384	PS
27	Interactive or Background	N/A	UL:128 DL:384	PS
28	Interactive or Background	N/A	UL:384 DL:384	PS
29	Interactive or Background	N/A	UL:64 DL:2048	PS
30	Interactive or Background	N/A	UL:128 DL:2048	PS
31	Void			
32	Interactive or Background	N/A	UL:64 DL:256	PS
33	Interactive or Background	N/A	UL:0 DL:32	PS
34	Interactive or Background	N/A	UL:32 DL:0	PS
35	Interactive or Background	N/A	UL:64 DL:144	PS
36	Interactive or Background	N/A	UL:144 DL:144	PS

Table 6.10.3.1.2: Signalling RBs

#	Maximum rate, kbps	Logical channel	PhyCh onto which SRBs are mapped
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. 13.6)	DCCH	SCCPCH
5	UL:16.8	CCCH	PRACH
6	DL:32 (alt. 16)	CCCH	SCCPCH
7	DL:33.6 (alt. 16.8)	BCCH	SCCPCH
8	DL:12 (alt. 8)	PCCH	SCCPCH
9	UL:16.8	SHCCH	PRACH
10	UL:16.8	SHCCH	PRACH or PUSCH
11	DL:32 (alt. 16)	SHCCH	SCCPCH
12	DL:16	SHCCH	SCCPCH or PDSCH

### 6.10.3.2 Combinations of RABs and Signalling RBs

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

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

#### Combinations on DPCH

- 1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH.
- 1a) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (multiframe).
- 2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH.
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 4a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 5a) Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7a) Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH8) Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 9) Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 10) Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB  
+ UL:1.7 DL:1.7 kbps SRBs for DCCH.

- 11) Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB  
+ UL:1.7 DL:1.7 kbps SRBs for DCCH.
- 12) Conversational / unknown / UL:28.8 DL:28.8 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 13) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14) Conversational / unknown / UL:32 DL:32 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 15) Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 16) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 17) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 18) Void.
- 19) Void.
- 20) Void.
- 21) Void.
- 22) Void..
- 23) Interactive or background / UL:32 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23a) Interactive or background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23b) Interactive or background / UL:16 DL:16 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23c) Interactive or background / UL:32 DL:32 kbps / PS RAB  
+ UL:3.4 DL:3.4 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
- 24) Void..
- 25) Interactive or background / UL:32 DL: 64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 26) Interactive or background / UL:64 DL: 64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 27) Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 28) Interactive or background / UL:128 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 29) Interactive or background / UL:64 DL:144 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 30) Interactive or background / UL:144 DL:144 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 31) Interactive or background / UL:64 DL:256 kbps / PS RAB  
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 32) Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 33) Interactive or background / UL:128 DL:384 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 34) Interactive or background / UL:384 DL:384 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 35) Interactive or background / UL:64 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 36) Interactive or background / UL:128 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 37) Interactive or background / UL:384 DL:2 048 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38a) Conversational / speech / 12.2 kbps / CS RAB  
+ Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38b) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38c) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38d) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38e) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:0 DL:0 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38f) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38g) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38h) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38i) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38j) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:32 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.

- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:256 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Interactive or background / UL:128 DL:2 048 kbps / PS RA B  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 46) Void
- 47) Void
- 48) Void
- 49) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 49a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 50) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51a) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or Background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 51b) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or Background / UL:16 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 52) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:64 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 53) Conversational / unknown / UL:64 DL:64 kbps / CS RAB  
+ Interactive or background / UL:128 DL:128 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 54) Void.
- 55) Void
- 56) Interactive or background / 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

- 57) Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ Interactive or background / UL:64 DL:64 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 58) Streaming / unknown / UL:16 DL:64 kbps / PS RAB  
+ Interactive or background / UL:8 DL:8 kbps / PS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 59) Reserved for future use
- 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

#### Combinations on PDSCH, SCCPCH, PUSCH and PRACH

- 1) Interactive or background / UL:64 DL:256 kbps / PS RAB  
+ UL: 3.4/16.8 DL:3.4/ 33.6 kbps SRBs for DCCH, CCCH and BCCH  
+ UL:16.8 DL: 16 kbps SRBs for SHCCH.
- 2) Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH  
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.
- 3) Interactive or background / UL:64 DL:2 048 kbps / PS RAB  
+ UL:3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH  
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.
- 4) Interactive or background / UL:384 DL:2 048 kbps / PS RAB  
+ UL:3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH  
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.

#### Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

- 1) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH  
+ Interactive or background / UL:64 DL:256 kbps / PS RAB  
+ UL:16.8 kbps SRBs for CCCH and SHCCH  
+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.
- 2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH  
+ Interactive or background / UL:64 DL:384 kbps / PS RAB  
+ UL:16.8 kbps SRBs for CCCH and SHCCH  
+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.
- 3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB  
+ UL:3.4 DL:3.4 kbps SRBs for DCCH  
+ Interactive or background / UL:64 DL:2 048 kbps / PS RAB  
+ UL:16.8 kbps SRBs for CCCH and SHCCH  
+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.

#### Combinations on SCCPCH

- 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.
- 3a) SRB for PCCH
  - + SRB for CCCH
  - + SRB for DCCH
  - + SRB for BCCH
- 4) RB for CTCH
  - + SRB for CCCH
  - + SRB for BCCH

#### Combinations on PRACH

- 1) Interactive or background / UL:12.8 kbps / PS RAB
  - + SRB for CCCH
  - + SRBs for DCCH.

#### Combinations on DPCH and HS-PDSCH

- 1) Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 2) Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 3) Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 5) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 6) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 7) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 8) Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 9) Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 10) Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 11) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

### 6.10.3.3 Example of linkage between RABs and services

RABs, which are included in the present document, can provide the services as shown in table 6.10.1.1: Traffic classes. Furthermore, the required BER for each RAB, which is assumed in the present document, is shown in table 6.10.3.3.1.

**Table 6.10.3.3.1: Example of linkage between RABs and services**

Traffic class <sup>[3]</sup>	RAB			Residual BER <sup>[3]</sup>	Services
	SSD <sup>[3]</sup>	Max. rate, kbps	CS/PS		
Conversational	Speech	UL:4.75-12.2 DL:4.75-12.2	CS	$5 \times 10^{-4}$ , $1 \times 10^{-3}$ , $5 \times 10^{-3}$	AMR speech
Conversational	Unknown	UL:64 DL:64	CS	$1 \times 10^{-4}$ or $1 \times 10^{-6}$	UDI 1B, 64k 3G-324M <sup>[4]</sup>
Conversational	Unknown	UL:32 DL:32	CS	$1 \times 10^{-4}$ or $1 \times 10^{-6}$	32k 3G-324M <sup>[4]</sup>
Conversational	Unknown	UL:28.8 DL:28.8	CS	$1 \times 10^{-3}$	Transparent modem
Streaming	Unknown	UL:14.4 DL:14.4	CS	$1 \times 10^{-3}$	FAX <sup>[6]</sup>
Streaming	Unknown	UL:28.8 DL:28.8	CS	$1 \times 10^{-3}$	FAX <sup>[6]</sup> PIAFS 32 kbps
Streaming	Unknown	UL:57.6 DL:57.6	CS	$1 \times 10^{-3}$	Modem <sup>[6]</sup> , FTM <sup>[5]</sup> , PIAFS 64 kbps
Streaming	Unknown	UL:64-128 or DL:64-384	CS	$1 \times 10^{-3}$ or $1 \times 10^{-4}$	Streaming video, uni-directional
Interactive or Background	N/A	UL:32-384 DL:8-2048	PS	$1 \times 10^{-3}$ or $1 \times 10^{-4}$	Packet

NOTE 1: SMS can be provided via the signalling RB (DCCH) on DPCH or SCCPCH.

NOTE 2: CBS can be provided via the signalling RB (CTCH) on SCCPCH

NOTE 3: UDI *n*B can be provided via *n* RABs of conversational 64 kbps.

### 6.10.3.4 Typical radio parameter sets

NOTE The order of tables and MAC-d flow numbering in this section may be different than the RB IDs and MAC-d flow IDs as defined in default messages in section 9.

#### 6.10.3.4.1 Combinations on DPCH

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

6.10.3.4.1.1.1 Uplink

6.10.3.4.1.1.1.1 Transport channel parameters

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

Higher layer	RAB/signalling RB		SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer		RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148 (alt. 0,148) (note)			
	TFS	TF0, bits		0x148 (alt 1x0) (note)		
		TF1, bits		1x148		
	TTI, ms		80			
Coding type		CC 1/3				



	CRC, bit	16
	Max number of bits/TTI before rate matching	516
	Max number of bits/radio frame before rate matching	65
	RM attribute	155 to 185
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UTRAN.		

## 6.10.3.4.1.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

## 6.10.3.4.1.1.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	234
	TFCl code word	8 bits
	TPC	2 bits
	Puncturing Limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCl code word will be 4 bits.		

## 6.10.3.4.1.1.2 Downlink

## 6.10.3.4.1.1.2.1 Transport channel parameters

## 6.10.3.4.1.1.2.1.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			
	TFS	TF0, bits	0 x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	80			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	65			
	RM attribute	155 to 185			
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.					

## 6.10.3.4.1.1.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

## 6.10.3.4.1.1.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	236 bits
	TFCI code word	8 bits
	Puncturing limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

6.10.3.4.1.1a Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (multiframe)

6.10.3.4.1.1a.1 Uplink

6.10.3.4.1.1a.1.1 Transport channel parameters

6.10.3.4.1.1a.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148			
	TFS	TF0, bits	0x148		
		TF1, bits	1x148		
	TTI, ms	20			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	258			

6.10.3.4.1.1a.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)

6.10.3.4.1.1a.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	266
	TFCI code word	8 bits
	TPC	2 bits
	Puncturing Limit	1
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

6.10.3.4.1.1a.2 Downlink

6.10.3.4.1.1a.2.1 Transport channel parameters

6.10.3.4.1.1a.2.1.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority

RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bits	0 x148			
		TF1, bits	1x148			
	TTI, ms		20			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Max number of bits/radio frame before rate matching		258			

## 6.10.3.4.1.1a.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE:	The first TFC is optional.

## 6.10.3.4.1.1a.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	268 bits
	TFCI code word	8 bits
	Puncturing limit	1
	Repetition period	8
	Repetition length	2
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.	

## 6.10.3.4.1.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.2.1 Uplink

## 6.10.3.4.1.2.1.1 Transport channel parameters

## 6.10.3.4.1.2.1.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB		SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer		RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148 (alt. 0,148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)			
		TF1, bits	1x148			
	TTI, ms		40			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			

	Max number of bits/radio frame before rate matching	129
	RM attribute	155 to 165
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UTRAN.		

## 6.10.3.4.1.2.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

## 6.10.3.4.1.2.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	234 bits
	TFCI code word	8 bits
	TPC	2 bit
	Puncturing Limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

## 6.10.3.4.1.2.2 Downlink

## 6.10.3.4.1.2.2.1 Transport channel parameters

## 6.10.3.4.1.2.2.1.1 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0, 148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	129			
	RM attribute	155 to 165			
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.					

## 6.10.3.4.1.2.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

## 6.10.3.4.1.2.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	236

	TFCI code word	8 bits
	Puncturing limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

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

6.10.3.4.1.3.1 Uplink

6.10.3.4.1.3.1.1 Transport channel parameters

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

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13 600	12 800	12 800	12 800
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
Max number of bits/radio frame before rate matching	516				
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UTRAN.					

6.10.3.4.1.3.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

6.10.3.4.1.3.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	468 bits
	TFCI code word	8 bits
	TPC	2 bits
	Puncturing Limit	0.88
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

## 6.10.3.4.1.3.2 Downlink

## 6.10.3.4.1.3.2.1 Transport channel parameters

## 6.10.3.4.1.3.2.1.1 Transport channel parameters for DL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13 600	12 800	12 800	12 800
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	516			

NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.

## 6.10.3.4.1.3.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)

NOTE: The first TFC is required for the alt. case, optional otherwise.

## 6.10.3.4.1.3.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	480 bits
	TFCI code word	8 bits
	Puncturing limit	0.92

NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.

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

## 6.10.3.4.1.4.1 Uplink

## 6.10.3.4.1.4.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	TM
	Payload sizes, bit	39, 81 (alt. 0, 39, 81)	103	60
	Max data rate, bps	12 200		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	DCH

TB sizes, bit		39, 81 (alt. 0, 39, 81)	103	60
TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
	TF1, bits	1x39	1x103	1x60
	TF2, bits	1x81	N/A	N/A
TTI, ms		20	20	20
Coding type		CC 1/3	CC 1/3	CC 1/2
CRC, bit		12	N/A	N/A
Max number of bits/TTI after channel coding		303	333	136
Max number of bits/radio frame before rate matching		152	167	68
RM attribute		180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

#### 6.10.3.4.1.4.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.4.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

#### 6.10.3.4.1.4.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.72

#### 6.10.3.4.1.4.2 Downlink

##### 6.10.3.4.1.4.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39,81 (alt. 0, 39, 81)	103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39,81 (alt. 0,39,81)	103	60	
	TFS	TF0, bits	0x81 (alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x103	1x60
		TF2, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	

	Max number of bits/radio frame before rate matching	152	167	68
	RM attribute	180 to 220	170 to 210	215 to 256
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.4.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.4.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

## 6.10.3.4.1.4.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCl code word	16 bits
	Puncturing limit	0.76

## 6.10.3.4.1.4a Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL:(12.2, 7.95, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.4a.1 Uplink

## 6.10.3.4.1.4a.1.1 Transport channel parameters

## 6.10.3.4.1.4a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x84	N/A
		TF4, bits	1x75	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Max number of bits/radio frame before rate matching	152	167	68	
RM attribute	180 to 220	170 to 210	215 to 256		



NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).

#### 6.10.3.4.1.4a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.4a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.4a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.72

#### 6.10.3.4.1.4a.2 Downlink

#### 6.10.3.4.1.4a.2.1 Transport channel parameters

#### 6.10.3.4.1.4a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x84	N/A
		TF4, bits	1x75	1x103	N/A
		TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Max number of bits/radio frame before rate matching	152	167	68	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.4a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.4a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.4a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

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

## 6.10.3.4.1.5.1 Uplink

## 6.10.3.4.1.5.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.5.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.5.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.5.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.40

## 6.10.3.4.1.5.2 Downlink

## 6.10.3.4.1.5.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39,65 (alt. 0, 39, 65)	99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 65 (alt.0,39,65)	99	40	
	TFS	TF0, bits	0x65 (alt,1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	CRC parity bits are to be attached to RAB subflow#1 anytime since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.5.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.5.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.5.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits

	Puncturing limit	0.40
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6.10.3.4.1.5a Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.5a.1 Uplink

6.10.3.4.1.5a.1.1 Transport channel parameters

6.10.3.4.1.5a.1.1.1 Transport channel parameters for Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x76	N/A
		TF4, bits	1x58	1x99	N/A
		TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in TS 25.222).				

6.10.3.4.1.5a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.5a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF3, TF2, TF0, TF0), (TF4, TF3, TF0, TF0), (TF5, TF4, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1), (TF3, TF2, TF0, TF1), (TF4, TF3, TF0, TF1), (TF5, TF4, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.5a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.40

- 6.10.3.4.1.5a.2 Downlink
- 6.10.3.4.1.5a.2.1 Transport channel parameters
- 6.10.3.4.1.5a.2.1.1 Transport channel parameters for Conversational / speech / DL: DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	0, 53, 63, 76, 99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	0, 53, 63, 76, 99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x76	N/A
		TF4, bits	1x58	1x99	N/A
		TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).					

- 6.10.3.4.1.5a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

- 6.10.3.4.1.5a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF3, TF2, TF0, TF0), (TF4, TF3, TF0, TF0), (TF5, TF4, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1), (TF3, TF2, TF0, TF1), (TF4, TF3, TF0, TF1), (TF5, TF4, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

- 6.10.3.4.1.5a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.40

- 6.10.3.4.1.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.1.6.1 Uplink
- 6.10.3.4.1.6.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	Max data rate, bps	7 950		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	TFS	TF0, bits	0x75 (alt. 1x0) (note)	0x84
		TF1, bits	1x39	1x84
		TF2, bits	1x75	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	285	276	
	Max number of bits/radio frame before rate matching	143	138	
	RM attribute	180 to 220	170 to 210	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clauses 4.2.1.1 in 3GPP TS 25.222 [29]).			

## 6.10.3.4.1.6.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.6.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.6.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44

## 6.10.3.4.1.6.2 Downlink

## 6.10.3.4.1.6.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	Max data rate, bps	7 950		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	TFS	TF0, bits	0x75 (alt. 1x0) (note)	0x84
		TF1, bits	1x39	1x84

	TF2, bits	1x75	N/A
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	N/A
	Max number of bits/TTI after channel coding	285	276
	Max number of bits/radio frame before rate matching	143	138
	RM attribute	180 to 220	170 to 210
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

## 6.10.3.4.1.6.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.6.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

## 6.10.3.4.1.6.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

## 6.10.3.4.1.7.1 Uplink

## 6.10.3.4.1.7.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x87
		TF2, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
	RM attribute	180 to 220	170 to 210	
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.7.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.7.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.7.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48

## 6.10.3.4.1.7.2 Downlink

## 6.10.3.4.1.7.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	TFS	TF0, bits	0x61(alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x87
		TF2, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
RM attribute	180 to 220	170 to 210		
NOTE:	CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB #1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

## 6.10.3.4.1.7.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.7.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; optional otherwise.

## 6.10.3.4.1.7.2.2 Physical channel parameters



DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

- 6.10.3.4.1.7a Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.1.7a.1 Uplink
- 6.10.3.4.1.7a.1.1 Transport channel parameters
- 6.10.3.4.1.7a.1.1.1 Transport channel parameters for Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
RM attribute	180 to 220	170 to 210		
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

- 6.10.3.4.1.7a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.7a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF3, TF2, TF0), (TF4, TF3, TF0), (TF5, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

- 6.10.3.4.1.7a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits

	Puncturing Limit	0.48
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## 6.10.3.4.1.7a.2 Downlink

## 6.10.3.4.1.7a.2.1 Transport channel parameters

## 6.10.3.4.1.7a.2.1.1 Transport channel parameters for Conversational / speech / DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms	20		
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12		
	Max number of bits/TTI after channel coding	243		
	Max number of bits/radio frame before rate matching	122		
RM attribute	180 to 220	170 to 210		
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.7a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.7a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF3, TF2, TF0), (TF4, TF3, TF0), (TF5, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

## 6.10.3.4.1.7a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

- 6.10.3.4.1.8 Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.1.8.1 Uplink
- 6.10.3.4.1.8.1.1 Transport channel parameters
- 6.10.3.4.1.8.1.1.1 Transport channel parameters for Conversational / speech / UL:6.7 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 58 (alt. 0, 39, 58)	76	
	Max data rate, bps	6 700		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 58 (alt. 0, 39, 58)	76	
	TFS	TF0, bits	0x58 (alt. 1x0) (note)	0x76
		TF1, bits	1x39	1x76
		TF2, bits	1x58	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	234	252	
	Max number of bits/radio frame before rate matching	117	126	
RM attribute	180 to 220	170 to 210		
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

- 6.10.3.4.1.8.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.8.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

- 6.10.3.4.1.8.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52

- 6.10.3.4.1.8.2 Downlink

- 6.10.3.4.1.8.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	39, 58 (alt. 0, 39, 58)	76
	Max data rate, bps	6 700	

	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 58 (alt. 0,39,58)	76	
	TFS	TF0, bits	0x58 (alt.1x0) (note)	0x76
		TF1, bits	1x39	1x76
		TF2, bits	1x58	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	234	252	
	Max number of bits/radio frame before rate matching	117	126	
RM attribute	180 to 220	170 to 210		
NOTE : CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

#### 6.10.3.4.1.8.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.8.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

#### 6.10.3.4.1.8.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

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

##### 6.10.3.4.1.9.1 Uplink

##### 6.10.3.4.1.9.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 55 (alt. 0, 39, 55)	63	
	Max data rate, bps	5 900		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 55 (alt. 0, 39, 55)	63	
	TFS	TF0, bits	0x55 (alt. 1x0) (note)	0x63
		TF1, bits	1x39	1x63
		TF2, bits	1x55	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	

	Max number of bits/TTI after channel coding	225	213
	Max number of bits/radio frame before rate matching	113	107
	RM attribute	180 to 220	170 to 210
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

## 6.10.3.4.1.9.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.9.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

## 6.10.3.4.1.9.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.56

## 6.10.3.4.1.9.2 Downlink

## 6.10.3.4.1.9.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 55 (alt. 0, 39, 55)	63	
	Max data rate, bps	5 900		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 55 (alt. 0, 39, 55)	63	
	TFS	TF0, bits	0x55 (alt. 1x0) (note)	0x63
		TF1, bits	1x39	1x63
		TF2, bits	1x55	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	225	213	
	Max number of bits/radio frame before rate matching	113	107	
RM attribute	180 to 220	170 to 210		
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.9.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.9.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.9.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

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

## 6.10.3.4.1.10.1 Uplink

## 6.10.3.4.1.10.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	Max data rate, bps	5 150		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	TFS	TF0, bits	0x49 (alt. 1x0) (note)	0x54
		TF1, bits	1x39	1x54
		TF2, bits	1x49	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	207	186	
	Max number of bits/radio frame before rate matching	104	93	
RM attribute	180 to 220	170 to 210		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

## 6.10.3.4.1.10.1.1.2 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

See clause 6.10.3.4.1.1.1.1.1.

## 6.10.3.4.1.10.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.10.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72

## 6.10.3.4.1.10.2 Downlink

## 6.10.3.4.1.10.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	Max data rate, bps	5 150		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	TFS	TF0, bits	0x49 (alt. 1x0) (note)	0x54
		TF1, bits	1x39	1x54
		TF2, bits	1x49	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	207	186	
	Max number of bits/radio frame before rate matching	104	93	
RM attribute	180 to 220	170 to 210		
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

## 6.10.3.4.1.10.2.1.2 Transport channel parameters for DL: 1.7 kbps SRBs for DCCH

See clause 6.10.3.4.1.1.2.1.1.

## 6.10.3.4.1.10.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

## 6.10.3.4.1.10.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.72

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

6.10.3.4.1.11.1 Uplink

6.10.3.4.1.11.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42 (alt. 0, 39, 42)	53	
	Max data rate, bps	4 750		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42 (alt. 0, 39, 42)	53	
	TFS	TF0, bits	0x42 (alt. 1x0) (note)	0x53
		TF1, bits	1x39	1x53
		TF2, bits	1x42	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	186	183	
	Max number of bits/radio frame before rate matching	93	92	
	RM attribute	180 to 220	170 to 210	
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.10.3.4.1.1.1.1.1.

6.10.3.4.1.11.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.10.3.4.1.11.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76

6.10.3.4.1.11.2 Downlink

6.10.3.4.1.11.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	39, 42 (alt. 0, 39, 42)	53
	Max data rate, bps	4 750	



	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42 (alt. 0, 39, 42)	53	
	TFS	TF0, bits	0x42 (alt.1x0 )(note)	0x53
		TF1, bits	1x39	1x53
		TF2, bits	1x42	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	186	183	
	Max number of bits/radio frame before rate matching	93	92	
RM attribute	180 to 220	170 to 210		

NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).

## 6.10.3.4.1.11.2.1.2 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

See clause 6.10.3.4.1.1.2.1.1.

## 6.10.3.4.1.11.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.11.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

## 6.10.3.4.1.12 Conversational / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.12.1 Uplink

## 6.10.3.4.1.12.1.1 Transport channel parameters

## 6.10.3.4.1.12.1.1.1 Transport channel parameters for conversational / unknown / UL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
Max number of bits/radio frame before rate matching	891		

	RM attribute	160 to 200
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#### 6.10.3.4.1.12.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.12.1.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.12.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76
NOTE:	In case the first TFC in a TFCS is not configured, the TFCI code word will be 8 bits.	

#### 6.10.3.4.1.12.2 Downlink

#### 6.10.3.4.1.12.2.1 Transport channel parameters

#### 6.10.3.4.1.12.2.1.1 Transport channel parameters for conversational / unknown / DL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
	Max number of bits/radio frame before rate matching	891	
	RM attribute	160 to 200	

#### 6.10.3.4.1.12.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.12.2.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.12.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
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	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.40
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

- 6.10.3.4.1.13 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.1.13.1 Uplink
- 6.10.3.4.1.13.1.1 Transport channel parameters
- 6.10.3.4.1.13.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	64 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	2x640
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 948	
	Max number of bits/radio frame before rate matching	1 974	
RM attribute	150 to 195		

- 6.10.3.4.1.13.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.13.1.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

- 6.10.3.4.1.13.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot + SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1148 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

## 6.10.3.4.1.13.2 Downlink

## 6.10.3.4.1.13.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		64 000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0x640
		TF1, bits	2x640
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3 948
	Max number of bits/radio frame before rate matching		1 974
RM attribute		150 to 195	

## 6.10.3.4.1.13.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.13.2.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.13.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 204 bits
	TFCI code word	16 bits
	Puncturing limit	0.52
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

## 6.10.3.4.1.14.1 Uplink

## 6.10.3.4.1.14.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		32 000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0x640

	TF1, bits	1x640
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 980
	Max number of bits/radio frame before rate matching	990
	RM attribute	165 to 210

#### 6.10.3.4.1.14.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.14.1.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.14.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.68
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

#### 6.10.3.4.1.14.2 Downlink

##### 6.10.3.4.1.14.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	1x640
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 980	
	Max number of bits/radio frame before rate matching	990	
	RM attribute	165 to 210	

#### 6.10.3.4.1.14.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.14.2.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.14.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	716 bits
	TFCI code word	16 bits
	Puncturing limit	0.52
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

6.10.3.4.1.15 Streaming / unknown / UL: 14.4/DL: 14.4 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

6.10.3.4.1.15.1 Uplink

6.10.3.4.1.15.1.1 Transport channel parameters

6.10.3.4.1.15.1.1.1 Transport channel parameters for Streaming / unknown / UL: 14.4 kbps / CS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		14 400
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 788
	Max number of bits/radio frame before rate matching		447
	RM attribute		145 to 185

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.15.1.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.10.3.4.1.15.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

## 6.10.3.4.1.15.2 Downlink

## 6.10.3.4.1.15.2.1 Transport channel parameters

## 6.10.3.4.1.15.2.1.1 Transport channel parameters for Streaming / unknown / DL:14.4 kbps / CS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		14 400
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 788
	Max number of bits/radio frame before rate matching		447
	RM attribute		145 to 185

## 6.10.3.4.1.15.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.15.2.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.15.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.80
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

## 6.10.3.4.1.16.1 Uplink

## 6.10.3.4.1.16.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		28 800
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576

	TF1, bits	1x576
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	3 564
	Max number of bits/radio frame before rate matching	891
	RM attribute	135 to 175

#### 6.10.3.4.1.16.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.16.1.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.16.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

#### 6.10.3.4.1.16.2 Downlink

##### 6.10.3.4.1.16.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
	Max number of bits/radio frame before rate matching	891	
	RM attribute	135 to 175	

#### 6.10.3.4.1.16.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.16.2.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)



NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.16.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCl code word	16 bits
	Puncturing limit	0.44

NOTE: In case the first TFC in the TFCS is not configured, the TFCl code word will be 8 bits.

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

6.10.3.4.1.17.1 Uplink

6.10.3.4.1.17.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	57 600	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	7 116	
Max number of bits/radio frame before rate matching	1 779		
RM attribute	125 to 165		

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.17.1.1.3 TFCS

TFCS size	10
TFCS	(57.6 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.17.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44

6.10.3.4.1.17.2 Downlink

6.10.3.4.1.17.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB	
RLC	Logical channel type		DTCH	
	RLC mode		TM	
	Payload sizes, bit		576	
	Max data rate, bps		57 600	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	
	TB sizes, bit		576	
	TFS	TF0, bits		0x576
		TF1, bits		1x576
		TF2, bits		2x576
		TF3, bits		3x576
		TF4, bits		4x576
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		7 116	
	Max number of bits/radio frame before rate matching		1 779	
RM attribute		125 to 165		

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.17.2.1.3 TFCS

TFCS size	10
TFCS	(57.6 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.17.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	960 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.10.3.4.1.18 Void

6.10.3.4.1.19 Void

6.10.3.4.1.20 Void

6.10.3.4.1.21 Void

6.10.3.4.1.22 Void

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

6.10.3.4.1.23.1 Uplink

6.10.3.4.1.23.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt.144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	1 062 (alt. 1 206)	
RM attribute	135 to 175		

## 6.10.3.4.1.23.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.23.1.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

## 6.10.3.4.1.23.2 Downlink

## 6.10.3.4.1.23.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	

	Max number of bits/TTI after channel coding	1 068
	Max number of bits/radio frame before rate matching	267
	RM attribute	135 to 175

## 6.10.3.4.1.23.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.23.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

## 6.10.3.4.1.23a Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.23a.1 Uplink

## 6.10.3.4.1.23a.1.1 Transport channel parameters

## 6.10.3.4.1.23a.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	N/A (alt. 5x144)
	TTI, ms	40 (alt. 80)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	267 (alt. 302)	
RM attribute	135 to 175		

## 6.10.3.4.1.23a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.23a.1.1.3 TFCS

TFCS size	4 (alt. 6)
TFCS	(8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.56 (alt. 0.48)

## 6.10.3.4.1.23a.2 Downlink

See clause 6.10.3.4.1.23.2.

## 6.10.3.4.1.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.23b.1 Uplink

## 6.10.3.4.1.23b.1.1 Transport channel parameters

## 6.10.3.4.1.23b.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	531 (alt. 603)	
RM attribute	135 to 175		

## 6.10.3.4.1.23b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.23b.1.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23b.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68 (alt. 0.60)

## 6.10.3.4.1.23b.2 Downlink

## 6.10.3.4.1.23b.2.1 Transport channel parameters

## 6.10.3.4.1.23b.2.1.1 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124	
Max number of bits/radio frame before rate matching	531		
RM attribute	135 to 175		

## 6.10.3.4.1.23b.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.23b.2.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23b.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

## 6.10.3.4.1.23c Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.23c.1 Uplink

## 6.10.3.4.1.23c.1.1 Transport channel parameters

## 6.10.3.4.1.23c.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320 (alt. 128)
	Max data rate, bps	32 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336 (alt. 144)

	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
		TF3, bits	3x336 (alt. 7x144)
		TF4, bits	4x336 (alt. 10x144)
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236 (alt. 4 812)	
	Max number of bits/radio frame before rate matching	1 059 (alt. 1 203)	
RM attribute	135 to 175		

#### 6.10.3.4.1.23c.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.23c.1.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.23c.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

#### 6.10.3.4.1.23c.2 Downlink

#### 6.10.3.4.1.23c.2.1 Transport channel parameters

#### 6.10.3.4.1.23c.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236	
	Max number of bits/radio frame before rate matching	1 059	
	RM attribute	135 to 175	

#### 6.10.3.4.1.23c.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.23c.2.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.23c.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	716
	TFCI code word	16 bits
	Puncturing limit	0.60

6.10.3.4.1.23d Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI)+ UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 6.10.3.4.1.23d.1 Uplink

##### 6.10.3.4.1.23d.1.1 Transport channel parameters

##### 6.10.3.4.1.23d.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
Max number of bits/radio frame before rate matching	1 062 (alt. 1 206)		
RM attribute	135 to 175		

6.10.3.4.1.23d.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.23d.1.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.23d.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits



	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

## 6.10.3.4.1.23d.2 Downlink

## 6.10.3.4.1.23d.2.1 Transport channel parameters

## 6.10.3.4.1.23d.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB	
RLC	Logical channel type		DTCH	
	RLC mode		AM	
	Payload sizes, bit		320	
	Max data rate, bps		32 000	
	AMD PDU header, bit		16	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	
	TB sizes, bit		336	
	TFS	TF0, bits		0x336
		TF1, bits		1x336
		TF2, bits		2x336
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		2 124	
	Max number of bits/radio frame before rate matching		1 062	
RMA attribute		135 to 175		

## 6.10.3.4.1.23d.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.23d.2.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.23d.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x3 codes x1 time slot
	Max. Number of data bits/radio frame	716 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

## 6.10.3.4.1.24 Void

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

## 6.10.3.4.1.25.1 Uplink

See clause 6.10.3.4.1.23.1.

## 6.10.3.4.1.25.2 Downlink

## 6.10.3.4.1.25.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	64 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236	
	Max number of bits/radio frame before rate matching	2 118	
	RM attribute	130 to 170	

#### 6.10.3.4.1.25.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.25.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.25.2.2 Physical channel parameters

DPCH Downlink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF16 x 3 codes x 1 time slot + SF16 x 2 codes x 1 time slot	SF16 x 9 codes x 1 time slot
Max. Number of data bits/radio frame	1 204 bits	2 180 bits
TFCI code word	16 bits	16 bits
Puncturing limit	0.52	0.96

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

#### 6.10.3.4.1.26.1 Uplink

#### 6.10.3.4.1.26.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320 (alt. 128)
	Max data rate, bps	64 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336 (alt. 144)

TFS	TF0, bits	0x336 (alt. 0x144)
	TF1, bits	1x336 (alt. 1x144)
	TF2, bits	2x336 (alt. 3x144)
	TF3, bits	3x336 (alt. 7x144)
	TF4, bits	4x336 (alt. 10x144)
TTI, ms		20
Coding type		TC
CRC, bit		16
Max number of bits/TTI after channel coding		4 236 (alt. 4 812)
Max number of bits/radio frame before rate matching		2 118 (alt. 2 406)
RM attribute		130 to 170

#### 6.10.3.4.1.26.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.26.1.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

#### 6.10.3.4.1.26.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF16 x 1 code x 1 time slot + SF4 x 1 code x 1 time slot	SF2 x 1 code x 1 time slot + SF4 x 1 code x 1 time slot
Max. Number of data bits/radio frame	1148 bits	2 784 bits
TFCI code word	16 bits	16 bits
TPC	2 bits	2 bits
Puncturing Limit	0.48 (alt. 0.44)	1

#### 6.10.3.4.1.26.2 Downlink

See clause 6.10.3.4.1.25.2.

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

#### 6.10.3.4.1.27.1 Uplink

See clause 6.10.3.4.1.26.1.

#### 6.10.3.4.1.27.2 Downlink

#### 6.10.3.4.1.27.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		128 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
TF2, bits		2x336	

		TF3, bits	4x336
		TF4, bits	8x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8 460
	Max number of bits/radio frame before rate matching		4 230
	RM attribute		120 to 160

#### 6.10.3.4.1.27.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.27.2.1.3 TFCS

TFCS size	10
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.27.2.2 Physical channel parameters

DPCH Downlink		Physical Configuration 1	Physical Configuration 2
	Midamble	256 chips	256 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot	SF16 x 4 codes x 2 time slots + SF16 x 3 codes x 2 time slots
	Max. Number of data bits/radio frame	2 192 bits	3848 bits
	TFCI code word	16 bits	16 bits
	Puncturing limit	0.48	0.84

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

##### 6.10.3.4.1.28.1 Uplink

##### 6.10.3.4.1.28.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	128 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 7x144)
		TF3, bits	4x336 (alt. 14x144)
		TF4, bits	8x336 (alt. 20x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460 ( alt. 9 612)	
Max number of bits/radio frame before rate matching	4 230 (alt. 4 806)		
RM attribute	120 to 160		

## 6.10.3.4.1.28.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.28.1.1.3 TFCS

TFCS size	9 (alt.10)
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.28.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1	Physical Configuration 2
Midamble	256 chips	256 chips
Codes and time slots	SF2 x 1 code x 1 timeslot	SF2 x 1 code x 2 timeslots + SF4 x 1 code x 1 time slot
Max. Number of data bits/radio frame	2 064 bits	5 376 bits
TFCI code word	16 bits	16 bits
TPC	2 bits	2 bits
Puncturing Limit	0.44 (alt. 0.40)	1

## 6.10.3.4.1.28.2 Downlink

See clause 6.10.3.4.1.27.2.

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

## 6.10.3.4.1.29.1 Uplink

See clause 6.10.3.4.1.26.1.

## 6.10.3.4.1.29.2 Downlink

## 6.10.3.4.1.29.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	144 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
	TF5, bits	9x336	
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	9 516		
Max number of bits/radio frame before rate matching	4 758		
RM attribute	140 to 180		

## 6.10.3.4.1.29.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.29.2.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.29.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 9 codes x 1 time slot
	Max. Number of data bits/radio frame	2468 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

## 6.10.3.4.1.30.1 Uplink

## 6.10.3.4.1.30.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	144 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 10x144)
		TF3, bits	4x336 (alt. 20x144)
		TF4, bits	8x336 (alt. 30x144)
		TF5, bits	9x336 (alt. 45x144)
	TTI, ms	20 (alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	9 516 (alt. 21 624)	
	Max number of bits/radio frame before rate matching	4 758 (alt. 5 406)	
	RM attribute	140 to 180	

## 6.10.3.4.1.30.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.30.1.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.30.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF16 x 1 code x 1 time slot + SF2 x 1 codex 1 time slot
	Max. Number of data bits/radio frame	2340 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44 (alt. 0.40)

## 6.10.3.4.1.30.2 Downlink

See clause 6.10.3.4.1.29.2.

## 6.10.3.4.1.31 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

## 6.10.3.4.1.31.1 Uplink

See clause 6.10.3.4.1.26.1.

## 6.10.3.4.1.31.2 Downlink

## 6.10.3.4.1.31.2.1 Transport channel parameters

## 6.10.3.4.1.31.2.1.1 Transport channel parameters for Interactive or background / DL:256 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	N/A (alt. 12x336)
		TF6, bits	N/A (alt. 16x336)
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460 (alt. 16 920)	
Max number of bits/radio frame before rate matching	8 460 (alt. 8 460)		
RM attribute	135 to 175		

## 6.10.3.4.1.31.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.31.2.1.3 TFCS

TFCS size	10 (alt.14)
TFCS	(256 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.31.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

## 6.10.3.4.1.32.1 Uplink

See clause 6.10.3.4.1.26.1.

## 6.10.3.4.1.32.2 Downlink

## 6.10.3.4.1.32.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
		TF6, bits	N/A (alt. 16x336)
		TF7, bits	N/A (alt. 20x336)
	TF8, bits	N/A (alt. 24x336)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	12 684 (alt. 25 368)	
Max number of bits/radio frame before rate matching	12 684 (alt. 12 684)		
RM attribute	110 to 150		

## 6.10.3.4.1.32.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.32.2.1.3 TFCS

TFCS size	12 (alt.18)
TFCS	(384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.



## 6.10.3.4.1.32.2.2 Physical channel parameters

DPCH Downlink		Physical Configuration 1	Physical Configuration 2
	Midamble	256 chips	256 chips
	Codes and time slots	SF16 x 8 codes x 3 time slots	SF16 x 6 codes x 4 time slots + SF16 x 4 codes x 1 time slot (alt. SF1 x 1 code x 3 time slots)
	Max. Number of data bits/radio frame	6 608 bits	7 712 bits (alt. 13232 bits)
	TFCI code word	16 bits	16 bits
Puncturing Limit	0.48	0.60 (alt. 1)	

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

6.10.3.4.1.33.1 Uplink

See clause 6.10.3.4.1.28.1.

6.10.3.4.1.33.2 Downlink

See clause 6.10.3.4.1.32.2.

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

6.10.3.4.1.34.1 Uplink

6.10.3.4.1.34.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	12x336
		TF6, bits	N/A (alt. 16x336)
		TF7, bits	N/A (alt. 20x336)
	TF8, bits	N/A (alt. 24x336)	
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
CRC, bit	16		
Max number of bits/TTI after channel coding	12 684 (alt. 25 368)		
Max number of bits/radio frame before rate matching	12 684		
RM attribute	110 to 150		

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.34.1.1.3 TFCS

TFCS size	12 (alt.18)
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TFCS	(384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.34.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1		Physical Configuration 2	
	Midamble	256 chips		256 chips
Codes and time slots	SF2 x 1 code x 3 time slots		SF2 x 1 code x 5 timeslots + SF4 x 1 code x 2 timeslots (alt. {SF2 x 1 code + SF4 x 1 code} x 4 timeslots)	
Max. Number of data bits/radio frame	6 480 bits		13 104 bits	
TFCl code word	16 bits		16 bits	
TPC	2 bits		2 bits	
Puncturing Limit	0.48		1	

6.10.3.4.1.34.2 Downlink

See clause 6.10.3.4.1.32.2.

6.10.3.4.1.35 Interactive or background / UL:64 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.35.1 Uplink

6.10.3.4.1.35.1.1 Transport channel parameters

See clause 6.10.3.4.1.26.1.1.

6.10.3.4.1.35.1.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.88 (alt. 0.80)

6.10.3.4.1.35.2 Downlink

6.10.3.4.1.35.2.1 Transport channel parameters

6.10.3.4.1.35.2.1.1 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	2 048 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656

Higher layer	RAB/Signalling RB	RAB
	TF3, bits	4x656
	TF4, bits	8x656
	TF5, bits	12x656
	TF6, bits	16x656
	TF7, bits	20x656
	TF8, bits	24x656
	TF9, bits	28x656
	TF10, bits	31x656 (alt. 32x656)
	TF11, bits	N/A (alt. 36x656)
	TF12, bits	N/A (alt. 40x656)
	TF13, bits	N/A (alt. 44x656)
	TF14, bits	N/A (alt. 48x656)
	TF15, bits	N/A (alt. 52x656)
	TF16, bits	N/A (alt. 56x656)
	TF17, bits	N/A (alt. 60x656)
	TF18, bits	N/A (alt. 64x656)
	TTL, ms	10 (alt. 20)
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTL after channel coding	62 565 (alt. 129 141)
	Max number of bits/radio frame before rate matching	62 565 (alt. 64 571)
	RM attribute	130 to 170

#### 6.10.3.4.1.35.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.35.2.1.3 TFCS

TFCS size	21 (alt.38)
TFCS	(2 048 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1) (alt. TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0), (TF15, TF0), (TF16, TF0), (TF17, TF0), (TF18, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1), (TF11, TF1), (TF12, TF1), (TF13, TF1), (TF14, TF1), (TF15, TF1), (TF16, TF1), (TF17, TF1), (TF18, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.35.2.2 Physical channel parameters

DPCH Downlink	Physical Configuration 1	Physical Configuration 2
Midamble	256 chips	256 chips
Codes and time slots	SF1 x 1 code x 11 time slots	SF16 x 13 codes x 4 time slots + SF16 x 12 codes x 7 time slot
Max. Number of data bits/radio frame	48 560 bits (alt. 48 544)	37 520 bits (alt. 37 504)
TFCI code word	16 bits (alt. 32 bits)	16 bits (alt. 32 bits)
Puncturing limit	0.76 (alt.0.72)	0.56

6.10.3.4.1.36 Void

6.10.3.4.1.37 Void

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

6.10.3.4.1.38.1 Uplink

6.10.3.4.1.38.1.1 Transport channel parameters

6.10.3.4.1.38.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB  
See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.1.38.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB  
See clause 6.10.3.4.1.23.1.1.1.

6.10.3.4.1.38.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH  
See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38.1.1.4 TFCS

TFCS size	18
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.38.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)

6.10.3.4.1.38.2 Downlink

6.10.3.4.1.38.2.1 Transport channel parameters

6.10.3.4.1.38.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB  
See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.38.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB  
See clause 6.10.3.4.1.23.2.1.1.

6.10.3.4.1.38.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH  
See clause 6.10.3.4.1.2.2.1.

6.10.3.4.1.38.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.38.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot

	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

6.10.3.4.1.38a Conversational / speech / 12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38a.1 Uplink

6.10.3.4.1.38a.1.1 Transport channel parameters

6.10.3.4.1.38a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.1.38a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	0	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt 0x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	0	
	Max number of bits/radio frame before rate matching	0	
	RM attribute	130 to 170	

6.10.3.4.1.38a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38a.1.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.10.3.4.1.38a.2 Downlink

6.10.3.4.1.38a.2.1 Transport channel parameters

6.10.3.4.1.38a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

## 6.10.3.4.1.38a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	0	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	0	
	Max number of bits/radio frame before rate matching	0	
	RM attribute	130 to 170	

## 6.10.3.4.1.38a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1

## 6.10.3.4.1.38a.2.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x2 codes x1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

## 6.10.3.4.1.38b Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.38b.1 Uplink

## 6.10.3.4.1.38b.1.1 Transport channel parameters

## 6.10.3.4.1.38b.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

## 6.10.3.4.1.38b.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

## 6.10.3.4.1.38b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.38b.1.1.4 TFCS

TFCS size	12 (alt. 17)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0),

	(TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1) (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38b.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48 (alt. 0.56)

6.10.3.4.1.38b.2 Downlink

6.10.3.4.1.38b.2.1 Transport channel parameters

6.10.3.4.1.38b.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.38b.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.10.3.4.1.38b.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38b.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38b.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCl code word	16 bits
	Puncturing limit	0.52

6.10.3.4.1.38c Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38c.1 Uplink

6.10.3.4.1.38c.1.1 Transport channel parameters

6.10.3.4.1.38c.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.1.38c.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.1.1.1.

6.10.3.4.1.38c.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38c.1.1.4 TFCS

TFCS size	18 (alt. 17)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38c.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.52)

6.10.3.4.1.38c.2 Downlink

6.10.3.4.1.38c.2.1 Transport channel parameters

6.10.3.4.1.38c.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.38c.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

6.10.3.4.1.38c.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38c.2.1.4 TFCS

TFCS size	18
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.



6.10.3.4.1.38c.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	960
	TFCI code word	16 bits
	Puncturing limit	0.56

6.10.3.4.1.38d Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38d.1 Uplink

6.10.3.4.1.38d.1.1 Transport channel parameters

6.10.3.4.1.38d.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.1.38d.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320 (alt. 128)	320 (alt. 128)	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340 (alt. 148)		
	TFS	TF0, bits	0x340 (alt 0x148)	
		TF1, bits	1x340 (alt 1x148)	
		TF2, bits	2x340 (alt 3x148)	
		TF3, bits	3x340 (alt 7x148)	
		TF4, bits	4x340 (alt 10x148)	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	4 284 (alt. 4 932)		
	Max number of bits/radio frame before rate matching	2 142 (alt. 2 466)		
	RM attribute	130 to 170		

6.10.3.4.1.38d.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38d.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38d.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

6.10.3.4.1.38d.2 Downlink

6.10.3.4.1.38d.2.1 Transport channel parameters

6.10.3.4.1.38d.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.38d.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	4 284		
	Max number of bits/radio frame before rate matching	2 142		
	RM attribute	130 to 170		

6.10.3.4.1.38d.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38d.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38d.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 7 codes x 1 time slot
	Max. Number of data bits/radio frame	1 916 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.10.3.4.1.38e Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL:(12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38e.1 Uplink

6.10.3.4.1.38e.1.1 Transport channel parameters

6.10.3.4.1.38e.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.10.3.4.1.38e.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.1.1.2.

6.10.3.4.1.38e.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38e.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38e.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.10.3.4.1.38e.2 Downlink

6.10.3.4.1.38e.2.1 Transport channel parameters

6.10.3.4.1.38e.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.10.3.4.1.38e.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.2.1.2.

6.10.3.4.1.38e.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38e.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1),
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38e.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x2 codes x1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.10.3.4.1.38f Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38f.1 Uplink

6.10.3.4.1.38f.1.1 Transport channel parameters

6.10.3.4.1.38f.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.10.3.4.1.38f.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.10.3.4.1.38f.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38f.1.1.4 TFCS

TFCS size	24 (alt. 32)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1) (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38f.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
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	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48 (alt.0.56)

6.10.3.4.1.38f.2 Downlink

6.10.3.4.1.38f.2.1 Transport channel parameters

6.10.3.4.1.38f.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.10.3.4.1.38f.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.10.3.4.1.38f.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38f.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38f.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

6.10.3.4.1.38g Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38g.1 Uplink

6.10.3.4.1.38g.1.1 Transport channel parameters

6.10.3.4.1.38g.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.10.3.4.1.38g.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.1.1.1.

6.10.3.4.1.38g.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38g.1.1.4 TFCS

TFCS size	32 (alt. 31)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1))
NOTE 1:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.
NOTE 2:	The alt. TFCS is used when the 16Kbps RAB alt. is used.

6.10.3.4.1.38g.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot + SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	664 bits (alt. 696 bits)
	TFCI code word	32 bits (alt. 16 bits)
	TPC	2 bits
	Puncturing Limit	0.56 (alt. 0.60)

6.10.3.4.1.38g.2 Downlink

6.10.3.4.1.38g.2.1 Transport channel parameters

6.10.3.4.1.38g.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.10.3.4.1.38g.2.1.2 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.2.1.1.

6.10.3.4.1.38g.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1

6.10.3.4.1.38g.2.1.4 TFCS

TFCS size	36
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38g.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	700 bits
	TFCI code word	32 bits
	Puncturing limit	0.56

6.10.3.4.1.38h Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38h.1 Uplink

6.10.3.4.1.38h.1.1 Transport channel parameters

6.10.3.4.1.38h.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.10.3.4.1.38h.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.1.1.1.

6.10.3.4.1.38h.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.38h.1.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38h.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 1 time slot + SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 084 bits
	TFCl code word	32 bits
	TPC	2 bits
	Puncturing Limit	0.68 (alt.0.60)

## 6.10.3.4.1.38h.2 Downlink

## 6.10.3.4.1.38h.2.1 Transport channel parameters

## 6.10.3.4.1.38h.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

## 6.10.3.4.1.38h.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

## 6.10.3.4.1.38h.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.38h.2.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38h.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	944
	TFCl code word	32 bits
	Puncturing limit	0.60

## 6.10.3.4.1.38i Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.38i.1 Uplink

## 6.10.3.4.1.38i.1.1 Transport channel parameters

## 6.10.3.4.1.38i.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.



## 6.10.3.4.1.38i.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.10.3.4.1.26.1.1.1.

## 6.10.3.4.1.38i.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.38i.1.1.4 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.38i.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 936 bits
	TFCI code word	32 bit
	TPC	2 bits
	Puncturing Limit	0.68 (alt.0.60)

## 6.10.3.4.1.38i.2 Downlink

## 6.10.3.4.1.38i.2.1 Transport channel parameters

## 6.10.3.4.1.38i.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

## 6.10.3.4.1.38i.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.10.3.4.1.25.2.1.1.

## 6.10.3.4.1.38i.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.38i.2.1.4 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0),

	(TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38i.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 7 codes x 1 time slot
	Max. Number of data bits/radio frame	1 900 bits
	TFCI code word	32 bits
	Puncturing limit	0.68

6.10.3.4.1.38j Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.38j.1 Uplink

See clause 6.10.3.4.1.38i.1

6.10.3.4.1.38j.2 Downlink

6.10.3.4.1.38j.2.1 Transport channel parameters

6.10.3.4.1.38j.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.10.3.4.1.38j.2.1.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See clause 6.10.3.4.1.27.2.1.1.

6.10.3.4.1.38j.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.38j.2.1.4 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1),

	(TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.38j.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 6 codes x 2 time slots
	Max. Number of data bits/radio frame	3 280 bits
	TFCI code word	32 bits
	Puncturing limit	0.64

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

6.10.3.4.1.39.1 Uplink

See clause 6.10.3.4.1.38.1.

6.10.3.4.1.39.2 Downlink

6.10.3.4.1.39.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.25.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.39.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)=(TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.39.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	1 936 bits
	TFCI code word	16 bits

	Puncturing limit	0.68
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6.10.3.4.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.3.4.1.40.1 Uplink

6.10.3.4.1.40.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.26.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.40.1.1.4 TFCS

6.10.3.4.1.40.1.1.4.1 TFCS (one CCTrCH case)

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.40.1.1.4.2 TFCS (two CCTrCH case)

6.10.3.4.1.40.1.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.40.1.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.40.1.2 Physical channel parameters

6.10.3.4.1.40.1.2.1 Physical channel (one CCTrCH case)

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 1 time slot

	Max. Number of data bits/radio frame	1 808 bits
	TFCl code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.64 (alt. 0.56)

6.10.3.4.1.40.1.2.2 Physical channel (two CCTrCH case)

6.10.3.4.1.40.1.2.2.1 Physical channel (conversational + SRB)

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCl code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.10.3.4.1.40.1.2.2.2 Physical channel (Interactive or background)

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.84 (alt. 0.72)

6.10.3.4.1.40.2 Downlink

Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.25.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.40.2.1.4 TFCS

6.10.3.4.1.40.2.1.4.1 TFCS (one CCTrCH case)

See Clause 6.10.3.4.1.39.2.1.4.

6.10.3.4.1.40.2.1.4.2 TFCS (two CCTrCH case)

6.10.3.4.1.40.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.40.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.40.2.2 Physical channel parameters

6.10.3.4.1.40.2.2.1 Physical channel parameters (one CCTrCH)

See clause 6.10.3.4.1.39.2.2.

6.10.3.4.1.40.2.2.2 Physical channel parameters (two CCTrCHs)

6.10.3.4.1.40.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.10.3.4.1.40.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 204 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

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

6.10.3.4.1.41.1 Uplink

See clause 6.10.3.4.1.40.1.

6.10.3.4.1.41.2 Downlink

6.10.3.4.1.41.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.41.2.1.4 TFCS

6.10.3.4.1.41.2.1.4.1 TFCS (one CCTrCH case)

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.41.2.1.4.2 TFCS (two CCTrCH case)

##### 6.10.3.4.1.41.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

##### 6.10.3.4.1.41.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.41.2.2 Physical channel parameters

##### 6.10.3.4.1.41.2.2.1 Physical channel parameters (one CCTrCH)

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 5codes x 2time slots
	Max. Number of data bits/radio frame	2 744 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

##### 6.10.3.4.1.41.2.2.2 Physical channel parameters (two CCTrCHs)

###### 6.10.3.4.1.41.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

###### 6.10.3.4.1.41.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0,48

6.10.3.4.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 6.10.3.4.1.42.1 Uplink

##### 6.10.3.4.1.42.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.26.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.42.1.1.4 TFCS

See clause 6.10.3.4.1.40.1.1.4.1.

6.10.3.4.1.42.1.2 Physical channel parameters

See clause 6.10.3.4.1.40.1.2.1.

6.10.3.4.1.42.2 Downlink

6.10.3.4.1.42.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.42.2.1.2 Transport channel parameters for Interactive or background / DL:256 kbps / PS RAB

See clause 6.10.3.4.1.31.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.42.2.1.4 TFCS

TFCS size	30 (alt. 42)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 256 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.42.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 2 time slots + SF16 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	5 504 bits (alt. 5 488)



	TFCI code word	16 bits (alt. 32)
	Puncturing limit	0.60

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

6.10.3.4.1.43.1 Uplink

See clause 6.10.3.4.1.40.1.

6.10.3.4.1.43.2 Downlink

6.10.3.4.1.43.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.32.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.43.2.1.4 TFCS

6.10.3.4.1.43.2.1.4.1 TFCS (one CCTrCH case)

TFCS size	36 (alt. 54)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.43.2.1.4.2 TFCS (two CCTrCH case)

## 6.10.3.4.1.43.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.43.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	6 (alt. 9)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF0, TF0, TF0, TF5, TF0) (alt. (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF0, TF0, TF0, TF8, TF0))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.43.2.2 Physical channel parameters

## 6.10.3.4.1.43.2.2.1 Physical channel parameters (one CCTrCH)

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 592 bits
	TFCI code word	32 bits
	Puncturing limit	0.48

## 6.10.3.4.1.43.2.2.2 Physical channel parameters (two CCTrCHs)

## 6.10.3.4.1.43.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

## 6.10.3.4.1.43.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits
	TFCI code word	16 bits
	Puncturing limit	0,52

## 6.10.3.4.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2 048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.1.44.1 Uplink

## 6.10.3.4.1.44.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.44.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.44.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	{SF8 x 1 code + SF2 x 1 code} x 1 time slot
	Max. Number of data bits/radio frame	2 616 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.44)

6.10.3.4.1.44.2 Downlink

6.10.3.4.1.44.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.1.44.2.1.2 Transport channel parameters for Interactive or background / DL:2 048 kbps / PS RAB

See clause 6.10.3.4.1.35.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.



6.10.3.4.1.44.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 12 codes x 11 time slots
	Max. Number of data bits/radio frame	36 400 bits
	TFCI code word	32 bits
	Puncturing limit	0.52

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

6.10.3.4.1.45.1 Uplink

6.10.3.4.1.45.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.17.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.45.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.45.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot + SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 392 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.56

6.10.3.4.1.45.2 Downlink

6.10.3.4.1.45.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.17.2.1.1.

## 6.10.3.4.1.45.2.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.45.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.45.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 6 codes x 1 time slot
	Max. Number of data bits/radio frame	1 448 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

6.10.3.4.1.46 Void

6.10.3.4.1.47 Void

6.10.3.4.1.48 Void

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

6.10.3.4.1.49.1 Uplink

6.10.3.4.1.49.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.49.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.49.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72

6.10.3.4.1.49.2 Downlink

6.10.3.4.1.49.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.49.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.49.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

6.10.3.4.1.49a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.49a.1 Uplink

6.10.3.4.1.49a.1.1 Transport channel parameters

6.10.3.4.1.49a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.10.3.4.1.49a.1.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.10.3.4.1.49a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.49a.1.1.4 TFCS

TFCS size	24
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TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1, TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4, TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.49a.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.72

6.10.3.4.1.49a.2 Downlink

6.10.3.4.1.49a.2.1 Transport channel parameters

6.10.3.4.1.49a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.10.3.4.1.49a.2.1.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.2.1.1.

6.10.3.4.1.49a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.49a.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1, TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4, TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.49a.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 7 codes x 1 time slot
	Max. Number of data bits/radio frame	1 916 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

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

6.10.3.4.1.50.1 Uplink



## 6.10.3.4.1.50.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

## 6.10.3.4.1.50.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

## 6.10.3.4.1.50.1.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.50.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 1 time slot + SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 784 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.60

## 6.10.3.4.1.50.2 Downlink

## 6.10.3.4.1.50.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

## 6.10.3.4.1.50.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.50.2.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.50.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 6 codes x 2 time slots
	Max. Number of data bits/radio frame	2 912 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

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

## 6.10.3.4.1.51.1 Uplink

## 6.10.3.4.1.51.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.26.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.51.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.51.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44 (alt. 0.40)

6.10.3.4.1.51.2 Downlink

6.10.3.4.1.51.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.25.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.51.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.51.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.10.3.4.1.51a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.51a.1 Uplink

6.10.3.4.1.51a.1.1 Transport channel parameters

6.10.3.4.1.51a.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.10.3.4.1.51a.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.10.3.4.1.51a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.51a.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) (alt. (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.10.3.4.1.51a.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.76

6.10.3.4.1.51a.2 Downlink

6.10.3.4.1.51a.2.1 Transport channel parameters

6.10.3.4.1.51a.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / PS RAB

See clause 6.10.3.4.1.13.2.1.1.

6.10.3.4.1.51a.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.10.3.4.1.51a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.51a.2.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.51a.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 6 codes x 1 time slot
	Max. Number of data bits/radio frame	1 640 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

6.10.3.4.1.51b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.1.51b.1 Uplink

6.10.3.4.1.51b.1.1 Transport channel parameters

6.10.3.4.1.51b.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.10.3.4.1.51b.1.1.2 Transport channel parameters for Interactive or Background / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.1.1.1.

6.10.3.4.1.51b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.51b.1.1.4 TFCS

TFCS size	12
TFCS	(64 kbps Conversational RAB, 16 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.51b.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.68

6.10.3.4.1.51b.2 Downlink

See clause 6.10.3.4.1.51.2.

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

6.10.3.4.1.52.1 Uplink

See clause 6.10.3.4.1.51.1.

6.10.3.4.1.52.2 Downlink

6.10.3.4.1.52.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.1.52.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.52.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	{SF16 x 8 codes x 1 time slot} + {SF16 x 5 codes x 1 time slot}
	Max. Number of data bits/radio frame	3 156 bits
	TFCl code word	16 bits
	Puncturing limit	0.44

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

6.10.3.4.1.53.1 Uplink

6.10.3.4.1.53.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.1.53.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.10.3.4.1.53.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 2 timeslots
	Max. Number of data bits/radio frame	3 760 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)

6.10.3.4.1.53.2 Downlink

See clause 6.10.3.4.1.52.2.

- 6.10.3.4.1.54 Void
- 6.10.3.4.1.55 Void
- 6.10.3.4.1.56 Interactive or background / 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
- 6.10.3.4.1.56.1 Uplink
- 6.10.3.4.1.56.1.1 Transport channel parameters
- 6.10.3.4.1.56.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB + UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320 (alt. 128)	320 (alt.128)	
	Max data rate, bps	8 000	8 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340 (alt. 148)		
	TFS	TF0, bits	0x340 (alt. 0x148)	
		TF1, bits	1x340 (alt. 1x148)	
		TF2, bits	N/A (alt. 5x148)	
	TTI, ms	40 (alt. 80)		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080 (alt. 2 472)		
	Max number of bits/radio frame before rate matching	270 (alt. 309)		
RM attribute	135 to 175			

- 6.10.3.4.1.56.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.56.1.1.3 TFCS

TFCS size	4 (alt. 6)
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1, TF0), (TF0,TF1), (TF1,TF1) (alt. (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.10.3.4.1.56.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits (alt. 16 bits).	

- 6.10.3.4.1.56.2 Downlink
- 6.10.3.4.1.56.2.1 Transport channel parameters
- 6.10.3.4.1.56.2.1.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB + DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	8 000	8 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080		
	Max number of bits/radio frame before rate matching	270		
RM attribute	135 to 175			

- 6.10.3.4.1.56.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

- 6.10.3.4.1.56.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF0,TF1), (TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.10.3.4.1.56.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

- 6.10.3.4.1.57.1 Uplink

- 6.10.3.4.1.57.1.1 Transport channel parameters

- 6.10.3.4.1.57.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

See clause 6.10.3.4.1.38d.1.1.2.

- 6.10.3.4.1.57.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.57.1.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.57.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.88 (alt. 0.76)

## 6.10.3.4.1.57.2 Downlink

## 6.10.3.4.1.57.2.1 Transport channel parameters

## 6.10.3.4.1.57.2.1.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320	320	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	4 284		
Max number of bits/radio frame before rate matching	2 142			
RM attribute	130 to 170			

## 6.10.3.4.1.57.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.1.57.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

## 6.10.3.4.1.57.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 364 bits
	TFCI code word	16 bits
	Puncturing limit	0.56



- 6.10.3.4.1.58 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.1.58.1 Uplink
- 6.10.3.4.1.58.1.1 Transport channel parameters
- 6.10.3.4.1.58.1.1.1 Transport channel parameters for Streaming / unknown / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068	
	Max number of bits/radio frame before rate matching	534	
	RM attribute	135 to 175	

- 6.10.3.4.1.58.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

- 6.10.3.4.1.58.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.1.58.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(16 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1) (alt. (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF0,TF2,TF0), (TF1,TF2,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF0,TF2,TF1), (TF1,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.10.3.4.1.58.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot + SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	696 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.68)

- 6.10.3.4.1.58.2 Downlink
- 6.10.3.4.1.58.2.1 Transport channel parameters
- 6.10.3.4.1.58.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	64 000	
	AMPDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 076	
	Max number of bits/radio frame before rate matching	2 019	
	RM attribute	125 to 165	

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

See clause 6.10.3.4.1.23.2.1.1.

#### 6.10.3.4.1.58.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.58.2.1.4 TFCS

TFCS size	16
TFCS	(64 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.58.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x6 codes x 1 time slot
	Max. Number of data bits/radio frame	1 640 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

#### 6.10.3.4.1.59 Reserved for future use

#### 6.10.3.4.1.60 Reserved for future use

#### 6.10.3.4.1.61 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

##### 6.10.3.4.1.61.1 Uplink

##### 6.10.3.4.1.61.1.1 Transport channel parameters

##### 6.10.3.4.1.61.1.1.1 Transport channel parameters for Conversational / unknown / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	320

	Max data rate, bps	8 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	328 (alt 0, 328)	
	TFS	TF0, bits	0x328 (alt 1x0) (note)
		TF1, bits	1x328
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 044	
	Max number of bits/radio frame before rate matching	261	
RM attribute	135 to 175		
NOTE: In case of using this alternative, CRC parity bits are to be attached any time since number of TrBIs are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

#### 6.10.3.4.1.61.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

#### 6.10.3.4.1.61.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.1.61.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) (alt. (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1))
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

#### 6.10.3.4.1.61.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.68 (alt. 0.64)

#### 6.10.3.4.1.61.2 Downlink

#### 6.10.3.4.1.61.2.1 Transport channel parameters

#### 6.10.3.4.1.61.2.1.1 Transport channel parameters for Conversational / unknown / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	320
	Max data rate, bps	8 000
	AMD PDU header, bit	8
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	328 (alt 0, 328)
	TFS	TF0, bits

	TF1, bits	1x328
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 044
	Max number of bits/radio frame before rate matching	261
	RM attribute	135 to 175
NOTE:	In case of using this alternative, CRC parity bits are to be attached any time since number of TrBlks are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).	

#### 6.10.3.4.1.61.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

#### 6.10.3.4.1.61.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

#### 6.10.3.4.1.61.2.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

#### 6.10.3.4.1.61.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

#### 6.10.3.4.2 Combinations on PDSCH, SCCPCH, PUSCH and PRACH

##### 6.10.3.4.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

##### 6.10.3.4.2.1.1 Uplink

##### 6.10.3.4.2.1.1.1 Transport channel parameters

##### 6.10.3.4.2.1.1.1.1 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB and UL SRB for SHCCH mapped on USCH

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	TM	
	Payload sizes, bit	320 (alt. 128)	168	
	Max data rate, bps	64 000	16 800	
	AMD/TrD PDU header, bit	16	0	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	USCH	USCH	
	TB sizes, bit	337 (alt. 145)	169	
	TFS	TF0, bits	0x337 (alt. 0x145)	0x169
		TF1, bits	1x337 (alt. 1x145)	1x169
		TF2, bits	2x337 (alt. 3x145)	N/A
		TF3, bits	3x337 (alt. 7x145)	N/A
		TF4, bits	4x337 (alt. 10x145)	N/A
	TTI, ms	20	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	

	Max number of bits/TTI after channel coding	4 248 (alt. 4 842)	386
	Max number of bits/radio frame before rate matching	2 124 (alt. 2 421)	386
	RM attribute	135 to 175	230 to 250

#### 6.10.3.4.2.1.1.1.2 Transport channel parameters for UL: 3.4 Kbps SRBs for DCCH mapped on USCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	5	5	5	5
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	USCH			
	TB sizes, bit	149			
	TFS	TF0, bits	0x149		
		TF1, bits	1x149		
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	519			
	Max number of bits/radio frame before rate matching	130			
	RM attribute	190 to 210			

#### 6.10.3.4.2.1.1.1.3 TFCS for USCH

TFCS size	20
TFCS	(64 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1)

#### 6.10.3.4.2.1.1.1.4 Transport channel parameters for SRB for CCCH and UL SRBs for DCCH and UL SRB for SHCCH mapped on RACH

##### 6.10.3.4.2.1.1.1.4.1 RACH transport channel configuration without DTCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH
	RLC mode	TM	UM	AM	AM	AM	TM
	Payload sizes, bit	168	136	128	128	128	168
	Max data rate, bps	16 800	13 600	12 800	12 800	12 800	16 800
	AMD/UMD/TrD PDU header, bit	0	8	16	16	16	0
MAC	MAC header, bit	2	26	26	26	26	2
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	RACH					
	TB sizes, bit	170					
	TFS	1x170					
	TTI, ms	10					
	Coding type	CC 1/2					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	388					
	Max number of bits/radio frame before rate matching	388					
	RM attribute	190 to 210					

## 6.10.3.4.2.1.1.1.4.2 RACH transport channel configuration with DTCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH
	RLC mode	AM	TM	UM	AM	AM	AM	TM
	Payload sizes, bit	128	168	136	128	128	128	168
	Max data rate, bps	12 800	16 800	13 600	12 800	12 800	12 800	16 800
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16	0
MAC	MAC header, bit	26	2	26	26	26	26	2
	MAC multiplexing	7 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	170						
	TFS	TF0, bits	1x170					
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI after channel coding	388						
	Max number of bits/radio frame before rate matching	388						

## 6.10.3.4.2.1.1.2 Physical channel parameters

## 6.10.3.4.2.1.1.2.1 Physical channel parameters for PUSCH

PUSCH	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.60 (alt. 0.56)

## 6.10.3.4.2.1.1.2.2 Physical channel parameters for PRACH

PRACH	Midamble	512 chips
	Codes and time slots	SF8 (alt. SF16) x 1 code x 1 time slot
	Max. Number of data bits/radio frame	464 (alt. 232)
	Puncturing Limit	1 (alt. 0.56)

## 6.10.3.4.2.1.2 Downlink

## 6.10.3.4.2.1.2.1 Transport channel parameters

## 6.10.3.4.2.1.2.1.1 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5
RLC	Logical channel type	DTCH	SHCCH
	RLC mode	AM	UM
	Payload sizes, bit	320	160
	Max data rate, bps	256 000	16 000
	AMD/UMD PDU header, bit	16	8
MAC	MAC header, bit	1	1
	MAC multiplexing	N/A	N/A
Layer 1	TrCH type	DSCH	DSCH
	TB sizes, bit	337	169

	TFS	TF0, bits	0x337	0x169
		TF1, bits	1x337	1x169
		TF2, bits	2x337	N/A
		TF3, bits	4x337	N/A
		TF4, bits	8x337	N/A
		TF5, bits	N/A (alt. 12x337)	N/A
		TF6, bits	N/A (alt. 16x337)	N/A
	TTI, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	
	Max number of bits/TTI after channel coding	8 484 (alt. 16 968)	386	
	Downlink: Max number of bits/radio frame before rate matching	8 484 (alt. 8 484)	386	
RM attribute	135 to 175	230 to 250		

#### 6.10.3.4.2.1.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	3 400	3 200	3 200	3 200	
	AMD/UMD PDU header, bit	8	16	16	16	
MAC	MAC header, bit	5	5	5	5	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DSCH				
	TB sizes, bit	149				
	TFS	TF0, bits	0x149			
		TF1, bits	1x149			
	TTI, ms	40				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	519				
	Max number of bits/radio frame before rate matching	130				
	RM attribute	155 to 165				

#### 6.10.3.4.2.1.2.1.3 TFCS for DSCH

TFCS size	20 (alt. 28)
TFCS	(256 kbps RAB, SHCCH, SRB for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1))

6.10.3.4.2.1.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

6.10.3.4.2.1.2.1.4.1 FACH transport channel configuration without DTCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	160	136 or 120 (note)	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	8	8	16	16	16	8	0	
MAC	MAC header, bit	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	7 logical channel multiplexing							
Layer 1	TrCH type	FACH							
	TB sizes, bit	171							
	TFS	TF0, bits	0x171						
		TF1, bits	1x171						
		TF2, bits	2x171						
		TF3, bits	3x171(alt. N/A)						
		TF4, bits	4x171(alt. N/A)						
	TTI, ms	20							
	Coding type	TC							
	CRC, bit	16							
	Max number of bits/TTI after channel coding	2 256 (alt. 1 134)							
Max number of bits/radio frame before rate matching	1 128 (alt. 567)								
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.									



## 6.10.3.4.2.1.2.1.4.2 FACH transport channel configuration with DTCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	AM	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	320	160	136 or 120 (note)	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	16	8	8	16	16	16	8	0	
MAC	MAC header, bit	27	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	8 logical channel multiplexing								
Layer 1	TrCH type	FACH								
	TB sizes, bit	171, 363								
	TFS	TF0, bits	0x171							
		TF1, bits	1x171							
		TF2, bits	2x171							
		TF3, bits	1x363							
		TF4, bits	3x171 (alt. N/A)							
		TF5, bits	4x171 (alt. N/A)							
		TF6, bits	2x363 (alt. N/A)							
	TTI, ms	20								
	Coding type	TC								
CRC, bit	16									
Max number of bits/TTI after channel coding	2 286 (alt. 1 149)									
Max number of bits/radio frame before rate matching	1 143 (alt. 575)									
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.										

## 6.10.3.4.2.1.2.1.5 TFCS for FACH

## 6.10.3.4.2.1.2.1.5.1 TFCS for FACH transport channel configuration without DTCH

TFCS size	5 (alt. 3)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. FACH = (TF0), (TF1), (TF2))

## 6.10.3.4.2.1.2.1.5.2 TFCS for FACH transport channel configuration with DTCH

TFCS size	7 (alt. 4)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4), (TF5), (TF6) (alt. FACH = (TF0), (TF1), (TF2), (TF3))

## 6.10.3.4.2.1.2.2 Physical channel parameters

## 6.10.3.4.2.1.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing Limit	0.44

## 6.10.3.4.2.1.2.2.2 Physical channel parameters for SCCPCH

## 6.10.3.4.2.1.2.2.2.1 Physical channel parameters for SCCPCH without DTCH

SCCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)
	Puncturing Limit	1 (alt. 0.84)

## 6.10.3.4.2.1.2.2.2.2 Physical channel parameters for SCCPCH with DTCH

SCCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472 bits)
	TFCI code word	16 bits
	Puncturing Limit	1 (alt. 0.80)

## 6.10.3.4.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH+ UL: 16.8 DL: 16 kbps SRBs for SHCCH

## 6.10.3.4.2.2.1 Uplink

See clause 6.10.3.4.2.1.1.

## 6.10.3.4.2.2.2 Downlink

## 6.10.3.4.2.2.2.1 Transport channel parameters

## 6.10.3.4.2.2.2.1.1 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5
RLC	Logical channel type	DTCH	SHCCH
	RLC mode	AM	UM
	Payload sizes, bit	320	160
	Max data rate, bps	384 000	16 000
	AMD/UMD PDU header, bit	16	8

MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DSCH	DSCH	
	TB sizes, bit	337	169	
	TFS	TF0, bits	0x337	0x169
		TF1, bits	1x337	1x169
		TF2, bits	2x337	N/A
		TF3, bits	4x337	N/A
		TF4, bits	8x337	N/A
		TF5, bits	12x337	N/A
		TF6, bits	N/A (alt. 16x337)	N/A
		TF7, bits	N/A (alt. 20x337)	N/A
	TF8, bits	N/A (alt. 24x337)	N/A	
	TTI, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	
Max number of bits/TTI after channel coding	12 720 (alt. 25 440)	386		
Downlink: Max number of bits/radio frame before rate matching	12 720 (alt. 12 720)	386		
RM attribute	135 to 175	230 to 250		

#### 6.10.3.4.2.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.2.

#### 6.10.3.4.2.2.1.3 TFCS for DSCH

TFCS size	24 (alt. 36)
TFCS	(384 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1))

#### 6.10.3.4.2.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH (with & without DTCH)

See clause 6.10.3.4.2.1.2.1.4.

#### 6.10.3.4.2.2.1.5 TFCS for FACH

See clause 6.10.3.4.2.1.2.1.5.

#### 6.10.3.4.2.2.2 Physical channel parameters

##### 6.10.3.4.2.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits (alt. 6 592 bits)
	TFCI code word	16 bits (alt. 32 bits)
	Puncturing Limit	0.48

##### 6.10.3.4.2.2.2.2 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.

6.10.3.4.2.3 Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.10.3.4.2.3.1 Uplink

See clause 6.10.3.4.2.1.1.

6.10.3.4.2.3.2 Downlink

6.10.3.4.2.3.2.1 Transport channel parameters

6.10.3.4.2.3.2.1.1 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	UM	
	Payload sizes, bit	640	160	
	Max data rate, bps	2 048 000	16 000	
	AMD/UMD PDU header, bit	16	8	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DSCH	DSCH	
	TB sizes, bit	657	169	
	TFS	TF0, bits	0x657	0x169
		TF1, bits	1x657	1x169
		TF2, bits	2x657	N/A
		TF3, bits	4x657	N/A
		TF4, bits	8x657	N/A
		TF5, bits	12x657	N/A
		TF6, bits	16x657	N/A
		TF7, bits	20x657	N/A
		TF8, bits	24x657	N/A
		TF9, bits	28x657	N/A
		TF10, bits	30x657 (alt. 32x657)	N/A
		TF11, bits	N/A (alt. 36x657)	N/A
		TF12, bits	N/A (alt. 40x657)	N/A
		TF13, bits	N/A (alt. 44x657)	N/A
		TF14, bits	N/A (alt. 48x657)	N/A
		TF15, bits	N/A (alt. 52x657)	N/A
		TF16, bits	N/A (alt. 56x657)	N/A
		TF17, bits	N/A (alt. 60x657)	N/A
	TF18, bits	N/A (alt. 64x657)	N/A	
	TTL, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	
	Max number of bits/TTL after channel coding	60 624 (alt. 129 330)	386	
	Downlink: Max number of bits/radio frame before rate matching	60 624 (alt. 64 665)	386	
	RM attribute	135 to 175	230 to 250	

6.10.3.4.2.3.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.2.

6.10.3.4.2.3.2.1.3 TFCS for DSCH

TFCS size	41 (alt.76)
TFCS	(2 048 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0), (TF10, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1),

(TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF9, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0), (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0), (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF18, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0), (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF18, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF18, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1), (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1), (TF18, TF1, TF1))
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6.10.3.4.2.3.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.10.3.4.2.1.2.1.4.1.

6.10.3.4.2.3.2.1.5 TFCS for FACH

See clause 6.10.3.4.2.1.2.1.45.1.

6.10.3.4.2.3.2.2 Physical channel parameters

6.10.3.4.2.3.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
	Codes and time slots	SF16 x 12 codes x 11 time slots
	Max. Number of data bits/radio frame	36 400 bits
	TFCI code word	32 bits
	Puncturing Limit	0.56 (alt. 0.52)

6.10.3.4.2.3.2.2.2 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.1.

6.10.3.4.2.4 Interactive or background / UL: 384 DL: 2 048 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.10.3.4.2.4.1 Uplink

6.10.3.4.2.4.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	TM	
	Payload sizes, bit	320 (alt. 128)	168	
	Max data rate, bps	384 000	16 800	
	AMD/TrD PDU header, bit	16	0	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	USCH	USCH	
	TB sizes, bit	337 (alt. 145)	169	
	TFS	TF0, bits	0x337 (alt. 0x145)	0x169
		TF1, bits	1x337 (alt. 1x145)	1x169

	TF2, bits	2x337 (alt. 5x145)	N/A
	TF3, bits	4x337 (alt. 10x145)	N/A
	TF4, bits	8x337 (alt. 20x145)	N/A
	TF5, bits	12x337 (alt. 30x145)	N/A
	TF6, bits	16x337 (alt. 40x145)	N/A
	TF7, bits	20x337 (alt. 50x145)	N/A
	TF8, bits	24x337 (alt. 60x145)	N/A
	TTL, ms	20	10
	Coding type	TC	CC 1/2
	CRC, bit	16	16
	Max number of bits/TTL after channel coding	25 440 (alt. 29 004)	386
	Max number of bits/radio frame before rate matching	12 720 (alt. 14 502)	386
	RM attribute	135 to 175	230 to 250

#### 6.10.3.4.2.4.1.1.2 Transport channel parameters for UL: 3.4 Kbps SRBs for DCCH mapped on USCH

See clause 6.10.3.4.2.1.1.1.2.

#### 6.10.3.4.2.4.1.1.3 TFCS for USCH

TFCS size	36
TFCS	(384 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1) (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1)

#### 6.10.3.4.2.4.1.1.4 Transport channel parameters for SRB for CCCH and UL SRBs for DCCH and UL SRB for SHCCH mapped on RACH

See clause 6.10.3.4.2.1.1.1.4.

#### 6.10.3.4.2.4.1.2 Physical channel parameters

##### 6.10.3.4.2.4.1.2.1 Physical channel parameters for PUSCH

PUSCH	Midamble	512 chips
	Codes and time slots	SF1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	7 264 bits
	TFCI code word	32 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.44)

##### 6.10.3.4.2.4.1.2.2 Physical channel parameters for PRACH

See clause 6.10.3.4.2.1.1.2.2.

#### 6.10.3.4.2.4.2 Downlink

##### 6.10.3.4.2.4.2.1 Transport channel parameters

See clause 6.10.3.4.2.3.2.1.

##### 6.10.3.4.2.4.2.2 Physical channel parameters

##### 6.10.3.4.2.4.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
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	Codes and time slots	SF1 x 1 codes x9 time slots
	Max. Number of data bits/radio frame	39 712 bits
	TFCI code word	32 bits
	Puncturing Limit	0.64 (alt. 0.60)

#### 6.10.3.4.2.4.2.2.2 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.1.

#### 6.10.3.4.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

6.10.3.4.3.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps  
SRBs for DCCH + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL:  
16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH SHCCH and  
BCCH

6.10.3.4.3.1.1 Uplink

6.10.3.4.3.1.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.3.1.1.1.2 Transport channel parameters for UL SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.3.1.1.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.1.1.3.

6.10.3.4.3.1.1.1.4 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB  
and UL SRB for SHCCH mapped on USCH

See clause 6.10.3.4.2.1.1.1.1.

6.10.3.4.3.1.1.1.5 TFCS for USCH

TFCS size	10
TFCS	(64 kbps RAB, SHCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)

6.10.3.4.3.1.1.1.6 Transport channel parameters for SRB for CCCH and UL SRB for SHCCH mapped on  
RACH

Higher layer	RAB/signalling RB	SRB#0	SRB#5
	User of Radio Bearer	RRC	RRC
RLC	Logical channel type	CCCH	SHCCH
	RLC mode	TM	TM
	Payload sizes, bit	168	168
	Max data rate, bps	16 800	16 800
	TrD PDU header, bit	0	0
MAC	MAC header, bit	2	2
	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	RACH	
	TB sizes, bit	170	
	TF0, bits	1x170	
	TTI, ms	10	
	Coding type	CC 1/2	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	388	
	Max number of bits/radio frame before rate matching	388	

## 6.10.3.4.3.1.1.2 Physical channel parameters

## 6.10.3.4.3.1.1.2.1 Physical channel parameters for DPCH

See clause 6.10.3.4.1.4.1.2.

## 6.10.3.4.3.1.1.2.2 Physical channel parameters for PUSCH

PUSCH	Midamble	512 chips
	Codes and time slots	SF2 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCI code word	16 bits
	TPC	2 bits
Puncturing Limit		0.76 (alt. 0.68)

## 6.10.3.4.3.1.1.2.3 Physical channel parameters for PRACH

See clause 6.10.3.4.2.1.1.2.2.

## 6.10.3.4.3.1.2 Downlink

## 6.10.3.4.3.1.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

## 6.10.3.4.3.1.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.3.1.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

## 6.10.3.4.3.1.2.1.4 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.1.

## 6.10.3.4.3.1.2.1.5 TFCS for DSCH

TFCS size	10 (alt. 14)
TFCS	(256 kbps RAB, SHCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1))

## 6.10.3.4.3.1.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

Higher layer	RAB/Signalling RB	SRB#0	SRB#5	SRB#6
	User of Radio Bearer	RRC	RRC	RRC
RLC	Logical channel type	CCCH	SHCCH	BCCH
	RLC mode	UM	UM	TM
	Payload sizes, bit	160	160	168
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)	33 600 (alt. 16 800)
	UMD/TrD PDU header, bit	8	8	0
MAC	MAC header, bit	3		
	MAC multiplexing	3 logical channel multiplexing		
Layer 1	TrCH type	FACH		
	TB sizes, bit	171		
	TFS	TF0, bits	0x171	
		TF1, bits	1x171	



	TF2, bits	2x171
	TF3, bits	3x171 (alt. N/A)
	TF4, bits	4x171 (alt. N/A)
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	2 256 (alt. 1 134)
	Max number of bits/radio frame before rate matching	1 128 (alt 567)

## 6.10.3.4.3.1.2.1.7 TFCS for FACH

TFCS size	5 (alt. 3)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. FACH = (TF0), (TF1), (TF2))

## 6.10.3.4.3.1.2.2 Physical channel parameters

## 6.10.3.4.3.1.2.2.1 Physical channel parameters for DPCH

See clause 6.10.3.4.1.4.2.2.

## 6.10.3.4.3.1.2.2.2 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing Limit	0.48

## 6.10.3.4.3.1.2.2.3 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.1.

6.10.3.4.3.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

## 6.10.3.4.3.2.1 Uplink

See clause 6.10.3.4.3.1.1.

## 6.10.3.4.3.2.2 Downlink

## 6.10.3.4.3.2.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

## 6.10.3.4.3.2.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.3.2.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

## 6.10.3.4.3.2.2.1.4 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.2.2.1.1.

## 6.10.3.4.3.2.2.1.5 TFCS for DSCH

TFCS size	12 (alt. 18)
TFCS	(384 kbps RAB, SHCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))

6.10.3.4.3.2.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.10.3.4.3.1.2.1.6.

6.10.3.4.3.2.2.1.7 TFCS for FACH

See clause 6.10.3.4.3.1.2.1.7.

6.10.3.4.3.2.2.2 Physical channel parameters

6.10.3.4.3.2.2.2.1 Physical channel parameters for downlink DPCH

See clause 6.10.3.4.1.4.2.2.

6.10.3.4.3.2.2.2.2 Physical channel parameters for PDSCH

PDSCH	Midamble	256 chips
	Codes and time slots	SF16 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits
	TFCI code word	16 bits
	Puncturing Limit	0.48

6.10.3.4.3.2.2.2.3 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.1.

6.10.3.4.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

6.10.3.4.3.3.1 Uplink

See clause 6.10.3.4.3.1.1.

6.10.3.4.3.3.2 Downlink

6.10.3.4.3.3.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.10.3.4.3.3.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.3.3.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

6.10.3.4.3.3.2.1.4 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.3.2.1.1.

6.10.3.4.3.3.2.1.5 TFCS for DSCH

TFCS size	22 (alt. 38)
TFCS	(2 048 kbps RAB, SHCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0), (TF15, TF0), (TF16, TF0), (TF17, TF0), (TF18, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1), (TF11, TF1), (TF12, TF1), (TF13, TF1), (TF14, TF1), (TF15, TF1), (TF16, TF1), (TF17, TF1), (TF18, TF1))

6.10.3.4.3.3.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.10.3.4.3.1.2.1.6.

6.10.3.4.3.3.2.1.7 TFCS for FACH

See clause 6.10.3.4.3.1.2.1.7.

6.10.3.4.3.3.2.2 Physical channel parameters

6.10.3.4.3.3.2.2.1 Physical channel parameters for downlink DPCH

See clause 6.10.3.4.1.4.2.2.

6.10.3.4.3.3.2.2.2 Physical channel parameters for PDSCH

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF1 x 1 code x 7 time slot
	Max. Number of data bits/radio frame	30 896 bits (alt. 30 880)
	TFCI code word	16 bits (alt. 32 bits)
	Puncturing limit	0.48 (alt. 0.44)

6.10.3.4.3.3.2.2.3 Physical channel parameters for SCCPCH

See clause 6.10.3.4.2.1.2.2.2.1.

6.10.3.4.4 Combinations on SCCPCH

6.10.3.4.4.1 Stand-alone signalling RB for PCCH

6.10.3.4.4.1.1 Transport channel parameters

6.10.3.4.4.1.1.1 Transport channel parameter of SRB for PCCH

Higher layer	RAB/signalling RB	SRB	
	User of Radio Bearer	RRC	
RLC	Logical channel type	PCCH	
	RLC mode	TM	
	Payload sizes, bit	240 (alt. 80)	
	Max data rate, bps	12 000 (alt. 8 000)	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	PCH	
	TB sizes, bit	240 (alt. 80)	
	TFS	TF0, bits	0x240 (alt. 0x80)
		TF1, bits	1x240 (alt. 1x80)
		TF2, bits	N/A (alt. 2x80)
	TTI, ms	20	

	Coding type	CC 1/2
	CRC, bit	16
	Max number of bits/TTI before rate matching	528 (alt. 400)
	Max number of bits/radio frame before rate matching	264 (alt. 200)
	RM attribute	210 to 250

## 6.10.3.4.4.1.1.2 TFCS

TFCS size	2 (alt. 3)
TFCS	SRBs for PCCH = (TF0), (TF1) (alt. (TF0), (TF1), (TF2))

## 6.10.3.4.4.1.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot (alt. SF16 x 1 code x 1 time slot)
	Max. Number of data bits/radio frame	480 bits (alt. 236 bits)
	TFCI code word	8 bits
	Puncturing limit	1

## 6.10.3.4.4.2 Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

## 6.10.3.4.4.2.1 Transport channel parameters

## 6.10.3.4.4.2.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB

Higher layer	RAB/signalling RB	RAB		
	User of Radio Bearer	Interactive/ Background RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320		
	Max data rate, bps	32 000 (alt. 16 000)		
	AMD PDU header, bit	16		
MAC	MAC header, bit	27		
	MAC multiplexing	N/A		
Layer 1	TrCH type	FACH		
	TB sizes, bit	363		
	TFS	TF0, bits	0 x363	
		TF1, bits	1x363	
		TF2, bits	2x363 (alt. N/A)	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI before rate matching	2 286 (alt. 1 149)		
	Max number of bits/radio frame before rate matching	1 143 (alt. 575)		
	RM attribute	110 to 150		

## 6.10.3.4.4.2.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode	UM	UM	AM	AM	AM	TM
	Payload sizes, bit	160	136 or 120 (note)	128	128	128	168

	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 24 000 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	33 600 (alt. 16 800)
	AMD/UMD/TrD PDU header, bit	8	8	16	16	16	0
MAC	MAC header, bit	3	27 or 43	27	27	27	3
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	FACH					
	TB sizes, bit	171					
	TFS	0x171					
	TF0, bits	1x171					
	TF1, bits	2x171					
	TF2, bits	3x171 (alt. N/A)					
	TF3, bits	4x171 (alt. N/A)					
	TF4, bits	20					
	TTI, ms	TC					
	Coding type	16					
	CRC, bit	2 256 (alt. 1 134)					
	Max number of bits/TTI before rate matching	1 128 (alt. 567)					
	Max number of bits/radio frame before rate matching	200 to 240					
	RM attribute						
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.							

## 6.10.3.4.4.2.1.3 TFCS

TFCS size	9 (alt. 4)
TFCS	(32kbps RAB, SRBs for CCCH/DCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF2, TF0) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0))
NOTE:	First TFCS applies when the alternative for the 32 kbps RAB and the alternative for the SRBs for CCCH/DCCH/BCCH are both not configured. The alt. TFCS applies when both the alt. for the 32 kbps RAB and the alt. for the SRBs for CCCH/DCCH/BCCH are configured. All other combinations of these alternatives are not valid.

## 6.10.3.4.4.2.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472)
	TFCI code word	16 bits
	Puncturing limit	0.60 (alt. 0.48)

## 6.10.3.4.4.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

## 6.10.3.4.4.2a.1 Transport channel parameters

## 6.10.3.4.4.2a.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB
	User of Radio Bearer	Interactive/Background RAB	Interactive/Background RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)
	AMD PDU header, bit	16	16
MAC	MAC header, bit	27	27

	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	FACH	
	TB sizes, bit	363	
	TFS	TF0, bits	0x363
		TF1, bits	1x363
		TF2, bits	2x363 (alt. N/A)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI before rate matching	2 286 (alt. 1 149)	
	Max number of bits/radio frame before rate matching	1 143 (alt. 575)	
RM attribute	110 to 150		

#### 6.10.3.4.4.2a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.3.4.4.2.1.2.

#### 6.10.3.4.4.2a.1.3 TFCS

TFCS size	9 (alt. 4)
TFCS	(32kbps RAB + 32kbps RAB, SRBs for CCCH/DCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF2, TF0) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0))
NOTE:	First TFCS applies when the alternative for the 32 kbps RABs and the alternative for the SRBs for CCCH/DCCH/BCCH are both not configured. The alt. TFCS applies when both the alt. for the 32 kbps RABs and the alt. for the SRBs for CCCH/DCCH/BCCH are configured. All other combinations of these alternatives are not valid.

#### 6.10.3.4.4.2a.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472)
	TFCI code word	16 bits
	Puncturing limit	0.60 (alt. 0.48)

#### 6.10.3.4.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

##### 6.10.3.4.4.2b.1 Transport channel parameters

#### 6.10.3.4.4.2b.1.1 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.3.4.4.2.1.2.

#### 6.10.3.4.4.2b.1.2 TFCS

TFCS size	5 (alt. 3)
TFCS	(SRBs for CCCH/DCCH/BCCH) = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. (TF0), (TF1), (TF2))

#### 6.10.3.4.4.2b.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)

	Puncturing limit		1 (alt. 0.84)
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6.10.3.4.4.3 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

6.10.3.4.4.3.1 Transport channel parameters

6.10.3.4.4.3.1.1 Transport channel parameters for Interactive/Background 32 kbps RAB

See clause 6.10.3.4.4.2.1.1.

6.10.3.4.4.3.1.2 Transport channel parameters of SRB for PCCH

See clause 6.10.3.4.4.1.1.1.

6.10.3.4.4.3.1.3 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.3.4.4.2.1.2.

6.10.3.4.4.3.1.4 TFCS

TFCS size	30 (alt. 8)
TFCS	(32 kbps RAB, SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH) = (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF0, TF2), (TF0, TF0, TF3), (TF0, TF0, TF4), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF1, TF2), (TF0, TF1, TF3), (TF0, TF1, TF4), (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1, TF0, TF2), (TF1, TF0, TF3), (TF1, TF0, TF4), (TF1, TF1, TF0), (TF1, TF1, TF1), (TF1, TF1, TF2), (TF1, TF1, TF3), (TF1, TF1, TF4), (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2, TF0, TF2), (TF2, TF0, TF3), (TF2, TF0, TF4), (TF2, TF1, TF0), (TF2, TF1, TF1), (TF2, TF1, TF2), (TF2, TF1, TF3), (TF2, TF1, TF4) (alt. (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF0, TF2), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF2, TF0), (TF0, TF2, TF1), (TF1, TF0, TF0))
NOTE:	Alt. TFCS applies when alts for 32 kbps RAB, SRB for PCCH, and SRBs for CCCH/ DCCH/ BCCH are all configured.

6.10.3.4.4.3.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 936 bits (alt. 472 bits)
	TFCI code word	16 bits
	Puncturing limit	0.52 (alt. 0.56)
NOTE:	Alt. applies when alts for 32 kbps RAB and SRBs for CCCH/ DCCH/ BCCH are both configured.	

6.10.3.4.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

6.10.3.4.4.3a.1 Transport channel parameters

6.10.3.4.4.3a.1.1 Transport channel parameters of SRB for PCCH

See clause 6.10.3.4.4.1.1.1.

6.10.3.4.4.3a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.10.3.4.4.2.1.2.

6.10.3.4.4.3a.1.3 TFCS

TFCS size	10 (alt.7)
TFCS	(SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF1, TF3), (TF1, TF4) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0), (TF1, TF1), (TF2, TF0), (TF2, TF1))
NOTE:	Alt. TFCS applies when alts for SRB for PCCH and SRBs for CCCH/ DCCH/ BCCH are both configured.

## 6.10.3.4.4.3a.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 5 codes x 1 time slot (alt. SF16 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)
	Puncturing limit	0.84 (alt. 0.84)
NOTE: Alt. applies when alt for SRBs for CCCH/ DCCH/ BCCH is configured.		

## 6.10.3.4.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH

## 6.10.3.4.4.4.1 Transport channel parameters

## 6.10.3.4.4.4.1.1 Transport channel parameters of RB for CTCH

Higher layer	RAB/signalling RB		N/A
	User of Radio Bearer		BMC
RLC	Logical channel type		CTCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		15 200
	UMD PDU header, bit		8
MAC	MAC header, bit		3
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		163
	TFS	TF0, bits	0x163
		TF1, bits	1x163
		TF2, bits	2x163
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		1 098
	Max number of bits/radio frame before rate matching		549
RM attribute		200 to 240	

## 6.10.3.4.4.4.1.2 Transport channel parameters of SRB for CCCH and SRB for BCCH

Higher layer	RAB/signalling RB		SRB#0	SRB#5
	User of Radio Bearer		RRC	RRC
RLC	Logical channel type		CCCH	BCCH
	RLC mode		UM	TM
	Payload sizes, bit		160	168
	Max data rate, bps		16 000	16 800
	AMD/UMD/TrD PDU header, bit		8	0
MAC	MAC header, bit		3	3
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		FACH	
	TB sizes, bit		171	
	TFS	TF0, bits	0x171	
		TF1, bits	1x171	
		TF2, bits	2x171	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI before rate matching		1 134	
	Max number of bits/radio frame before rate matching		567	
RM attribute		200 to 240		

## 6.10.3.4.4.4.1.3 TFCS



TFCS size	4
TFCS	(RB for CTCH, SRBs for CCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0), (TF1, TF1), (TF2, TF0)

#### 6.10.3.4.4.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.80

#### 6.10.3.4.4.5 64.8kbps RB for MTCH with 80 ms TTI

##### 6.10.3.4.4.5.1 Transport channel parameters

##### 6.10.3.4.4.5.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		64800
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
	TF8, bits	8x664	
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		16344
Max number of bits/radio frame before rate matching		2043	
RM attribute		160	

##### 6.10.3.4.4.5.1.2 TFCS

TFCS size	9
TFCS	64 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8

#### 6.10.3.4.4.5.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	1936 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

## 6.10.3.4.4.6 129.6kbps RB for MTCH with 80 ms TTI

## 6.10.3.4.4.6.1 Transport channel parameters

## 6.10.3.4.4.6.1.1 Transport channel parameters for 128 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		129600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		80
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI after channel coding		32679	
Max number of bits/radio frame before rate matching		4085	
RM attribute		160	

## 6.10.3.4.4.6.1.2 TFCS

TFCS size	17
TFCS	128 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

## 6.10.3.4.4.6.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF1 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	3888 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

6.10.3.4.4.7 259.2 kbps RB for MTCH with 40 ms TTI

6.10.3.4.4.7.1 Transport channel parameters

6.10.3.4.4.7.1.1 Transport channel parameters for 256 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		129600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		40
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI after channel coding		32679	
Max number of bits/radio frame before rate matching		8170	
RM attribute		160	

6.10.3.4.4.7.1.2 TFCS

TFCS size	17
TFCS	256 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.10.3.4.4.7.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF1 x 1 codes x 2 time slot
	Max. Number of data bits/radio frame	7792 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

## 6.10.3.4.4.8 7.6 kbps signalling RB for MCCH

## 6.10.3.4.4.8.1 Transport channel parameters

## 6.10.3.4.4.8.1.1 Transport channel parameters for 7.6 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		160
	TFS	TF0, bits	0x160
		TF1, bits	1x160
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI after channel coding		552
	Max number of bits/radio frame before rate matching		276
	RM attribute		160

## 6.10.3.4.4.8.1.2 TFCS

TFCS size	2
TFCS	MBMS SRB = TF0, TF1

## 6.10.3.4.4.8.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF16 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.80

6.10.3.4.4.9 124.kbps RB for MBSFN MTCH with 80 ms TTI

6.10.3.4.4.9.1 Transport channel parameters

6.10.3.4.4.9.1.1 Transport channel parameters for 124 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		124400
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4993
	TFS	TF0, bits	0x4993
		TF1, bits	1x4993
		TF2, bits	2x4993
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		30078
	Max number of bits/radio frame before rate matching		3760
RM attribute		128	

6.10.3.4.4.9.1.2 TFCS

TFCS size	3
TFCS	124 kbps RAB =TF0, TF1, TF2

6.10.3.4.4.9.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF1 x 1 code x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	4208 bits
	TFCI code word	(16,5)
	Puncturing limit	1

6.10.3.4.4.10 320.kbps RB for MBSFN MTCH with 80 ms TTI

6.10.3.4.4.10.1 Transport channel parameters

6.10.3.4.4.10.1.1 Transport channel parameters for 320 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4272
	Max data rate, bps		320400
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4289
	TFS	TF0, bits	0x4289
		TF1, bits	1x4289
		TF2, bits	6x4289
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		77562
	Max number of bits/radio frame before rate matching		9696
RM attribute		128	

6.10.3.4.4.10.1.2 TFCS

TFCS size	3
TFCS	320 kbps RAB =TF0, TF1, TF2

6.10.3.4.4.10.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF1 x 1 code x 1 time slot
	Modulation	16QAM
	Max. Number of data bits/radio frame	8432 bits
	TFCI code word	(16,5)
	Puncturing limit	0.84

6.10.3.4.4.11 497.6kbps RB for MBSFN MTCH with 80 ms TTI

6.10.3.4.4.11.1 Transport channel parameters

6.10.3.4.4.11.1.1 Transport channel parameters for 496 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		497600
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4993
	TFS	TF0, bits	0x4993
		TF1, bits	1x4993
		TF2, bits	8x4993
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		120312
	Max number of bits/radio frame before rate matching		15039
RM attribute		128	

6.10.3.4.4.11.1.2 TFCS

TFCS size	3
TFCS	496 kbps RAB =TF0, TF1, TF2

6.10.3.4.4.11.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF1 x 1 code x 2 time slots
	Modulation	QPSK
	Max. Number of data bits/radio frame	8432 bits
	TFCI code word	(16,5) in first slot only
	Puncturing limit	0.56

6.10.3.4.4.12 7.2 kbps signalling RB for MBSFN MCCH

6.10.3.4.4.12.1 Transport channel parameters

6.10.3.4.4.12.1.1 Transport channel parameters for 7.2 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		72
	Max data rate, bps		7200
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		80
	TFS	TF0, bits	0x80
		TF1, bits	1x80
		TF2, bits	2x80
		TF3, bits	4x80
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1164
	Max number of bits/radio frame before rate matching		291
RM attribute		128	

6.10.3.4.4.12.1.2 TFCS

TFCS size	4
TFCS	MBMS SRB =TF0, TF1, TF2, TF3

6.10.3.4.4.12.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	248 bits
	Modulation	QPSK
	TFCI code word	(16,5)
	Puncturing limit	0.84

6.10.3.4.5 Combinations on PRACH

6.10.3.4.5.1 SRB for CCCH + SRB for DCCH

6.10.3.4.5.1.1 Transport channel parameters

6.10.3.4.5.1.1.1 Transport channel parameter for SRB for CCCH, SRB for DCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	TM	UM	AM	AM	AM
	Payload sizes, bit	168	136	128	128	128
	Max data rate, bps	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	0	8	16	16	16
MAC	MAC header, bit	2	26	26	26	26



	MAC multiplexing	5 logical channel multiplexing				
Layer 1	TrCH type	RACH				
	TB sizes, bit	170				
	TFS	TF0, bits	1x170			
	TTI, ms	10				
	Coding type	CC 1/2				
	CRC, bit	16				
	Max number of bits/TTI after channel coding	388				
	Max number of bits/Radio frame before rate matching	388				

## 6.10.3.4.5.1.1.2 TFCS

TFCS size	1
TFCS	SRBs for CCCH/ DCCH = (TF0)

## 6.10.3.4.5.1.2 Physical channel parameters

PRACH	Midamble	512 chips
	Codes and time slots	SF8 (alt. SF16) x 1 code x 1 time slot
	Max. Number of data bits/radio frame	488 bits (alt. 244 bits)
	Puncturing Limit	1.0 (alt. 0.60)

## 6.10.3.4.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

## 6.10.3.4.5.2.1 Transport channel parameters

Higher layer	RAB/signalling RB User of Radio Bearer	RAB Interactive/ Background RAB	SRB#0 RRC	SRB#1 RRC	SRB#2 RRC	SRB#3 NAS_DT High priority	SRB#4 NAS_DT Low priority
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	168	136	128	128	128
	Max data rate, bps	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16
MAC	MAC header, bit	26	2	26	26	26	26
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	RACH					
	TB sizes, bit	170					
	TFS	TF0, bits	1x170				
	TTI, ms	10					
	Coding type	CC 1/2					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	388					
	Max number of bits/ Radio frame before rate matching	388					

## 6.10.3.4.5.2.2 Physical channel parameters

See clause 6.10.3.4.5.1.2.

## 6.10.3.4.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

## 6.10.3.4.5.3.1 Transport channel parameters

Higher	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
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layer	User of Radio Bearer	Interactive/ Background RAB	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	128	168	136	128	128	128
	Max data rate, bps	12 800	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	16	0	8	16	16	16
MAC	MAC header, bit	26	26	2	26	26	26	26
	MAC multiplexing	7 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	170						
	TFS TF0, bits	1x170						
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI after channel coding	388						
	Max number of bits/ Radio frame before rate matching	388						

#### 6.10.3.4.5.3.2 Physical channel parameters

See clause 6.10.3.4.5.1.2.

#### 6.10.3.4.6 Combinations on DPCH and HS-PDSCH

6.10.3.4.6.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

##### 6.10.3.4.6.1.1 Uplink

See clause 6.10.3.4.1.26.1.

##### 6.10.3.4.6.1.2 Downlink

##### 6.10.3.4.6.1.2.1 Transport channel parameters

##### 6.10.3.4.6.1.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.1.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	depends on UE category NOTE1
	AMD PDU header, bit	16
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	10 ms
	Coding type	TC
	CRC, bit	24
NOTE:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).	

##### 6.10.3.4.6.1.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1

6.10.3.4.6.1.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.10.3.4.6.1.2.2 Physical channel parameters

6.10.3.4.6.1.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

6.10.3.4.6.1.2.2.2 Physical channel parameters on HS-PDSCH

Physical parameters common for all UE physical layer categories

HS-PDSCH	Midamble	512 chips
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UE HS-DSCH Physical Layer category 1:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	2
	Max Data Rate	1.2 Mbps

UE HS-DSCH Physical Layer category 2:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	1.2 Mbps

UE HS-DSCH Physical Layer category 3:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	4
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 4:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 5:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	6

	Max Data Rate	3.6 Mbps
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UE HS-DSCH Physical Layer category 6:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	3.6 Mbps

UE HS-DSCH Physical Layer category 7:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	5.3 Mbps

UE HS-DSCH Physical Layer category 8:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	7.3 Mbps

UE HS-DSCH Physical Layer category 9:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	10.2 Mbps

6.10.3.4.6.2 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.6.2.1 Uplink

See clause 6.10.3.4.1.28.1.

6.10.3.4.6.2.2 Downlink

6.10.3.4.6.2.2.1 Transport channel parameters

6.10.3.4.6.2.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.2.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.2.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.6.2.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

## 6.10.3.4.6.2.2.2 Physical channel parameters

## 6.10.3.4.6.2.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2..

## 6.10.3.4.6.2.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

## 6.10.3.4.6.3 Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.6.3.1 Uplink

See clause 6.10.3.4.1.34.1.

## 6.10.3.4.6.3.2 Downlink

## 6.10.3.4.6.3.2.1 Transport channel parameters

## 6.10.3.4.6.3.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.3.4.6.3.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

## 6.10.3.4.6.3.2.1.2 Transport channel parameters for DCH

## 6.10.3.4.6.3.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.6.3.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

## 6.10.3.4.6.3.2.2 Physical channel parameters

## 6.10.3.4.6.3.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2..

## 6.10.3.4.6.3.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

## 6.10.3.4.6.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.6.4.1 Uplink

## 6.10.3.4.6.4.1.1 Transport channel parameters

## 6.10.3.4.6.4.1.1.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.34.1.1.1.

## 6.10.3.4.6.4.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.6.4.1.1.4 TFCS

TFCS size	36 (alt. 54)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1))

6.10.3.4.6.4.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 3 time slots
	Max. Number of data bits/radio frame	6 480 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48

6.10.3.4.6.4.2 Downlink

6.10.3.4.6.4.2.1 Transport channel parameters

6.10.3.4.6.4.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.4.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.4.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.6.4.2.1.2.3 TFCS

See clause 6.10.3.4.1.4.2.1.3.

## 6.10.3.4.6.4.2.2 Physical channel parameters

## 6.10.3.4.6.4.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.4.2.2.

## 6.10.3.4.6.4.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

## 6.10.3.4.6.5 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.6.5.1 Uplink

See clause 6.10.3.4.1.40.1.

## 6.10.3.4.6.5.2 Downlink

## 6.10.3.4.6.5.2.1 Transport channel parameters

## 6.10.3.4.6.5.2.1.1 Transport channel parameters for HS-DSCH

## 6.10.3.4.6.5.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

## 6.10.3.4.6.5.2.1.2 Transport channel parameters for DCH

## 6.10.3.4.6.5.2.1.2.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

## 6.10.3.4.6.5.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

## 6.10.3.4.6.5.2.1.2.3 TFCS

See clause 6.10.3.4.1.4.2.1.3.

## 6.10.3.4.6.5.2.2 Physical channel parameters

## 6.10.3.4.6.5.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.4.2.2.

## 6.10.3.4.6.5.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

## 6.10.3.4.6.6 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.6.6.1 Uplink

## 6.10.3.4.6.6.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.34.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.6.6.1.1.4 TFCS

TFCS size	24 (alt. 36)
TFCS	(64 kbps RAB, 384 kbps RAB , DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF6, TF0), (TF1, TF6, TF0), (TF0, TF7, TF0), (TF1, TF7, TF0), (TF0, TF8, TF0), (TF1, TF8, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1), (TF0, TF6, TF1), (TF1, TF6, TF1), (TF0, TF7, TF1), (TF1, TF7, TF1), (TF0, TF8, TF1), (TF1, TF8, TF1))

6.10.3.4.6.6.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF2 x 1 code x 3 time slots
	Max. Number of data bits/radio frame	6 480 bits
	TFCS code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.40

6.10.3.4.6.6.1 Downlink

6.10.3.4.6.6.2.1 Transport channel parameters

6.10.3.4.6.6.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.6.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.6.2.1.1 Transport channel parameters for DCH

6.10.3.4.6.6.2.1.2.1 Transport channel parameters for Conversational / unkown/ DL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.6.6.2.1.2.3 TFCS

See clause 6.10.3.4.1.13.2.1.3.



6.10.3.4.6.6.2.2 Physical channel parameters

6.10.3.4.6.6.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.4.2.2.

6.10.3.4.6.6.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

6.10.3.4.6.7 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.6.7.1 Uplink

See clause 6.10.3.4.1.57.1.

6.10.3.4.6.7.2 Downlink

6.10.3.4.6.7.2.1 Transport channel parameters

6.10.3.4.6.7.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.7.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.7.2.1.1 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.6.7.2.1.2.3 TFCS

See clause 6.10.3.4.1.13.2.1.3.

6.10.3.4.6.7.2.2 Physical channel parameters

6.10.3.4.6.7.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.4.2.2.

6.10.3.4.6.7.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

6.10.3.4.6.8 Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.6.8.1 Uplink

6.10.3.4.6.8.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320

	Max data rate, bps	384 000	384 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
		TF5, bits	12x340	
		TTI, ms	10	
		Coding type	TC	
	CRC, bit	16		
	Max number of bits/TTI after channel coding	12 828		
	Uplink: Max number of bits/radio frame before rate matching	12 828		
	RM attribute	110-180		

#### 6.10.3.4.6.8.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

#### 6.10.3.4.6.8.1.1.3 TFCS

TFCS size	12
TFCS	(384 kbps RAB + 384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

#### 6.10.3.4.6.8.1.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF2 x 1 codes x 3 time slot
	Max. Number of data bits/radio frame	6480 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

#### 6.10.3.4.6.8.2 Downlink

##### 6.10.3.4.6.8.2.1 Transport channel parameters

##### 6.10.3.4.6.8.2.1.1 Transport channel parameters for HS-DSCH

##### 6.10.3.4.6.8.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

##### 6.10.3.4.6.8.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

##### 6.10.3.4.6.8.2.1.2 Transport channel parameters for DCH

##### 6.10.3.4.6.8.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

##### 6.10.3.4.6.8.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.10.3.4.6.8.2.2 Physical channel parameters

6.10.3.4.6.8.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

6.10.3.4.6.8.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

6.10.3.4.6.9 Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.3.4.6.9.1 Uplink

See clause 6.10.3.4.1.57.1.

6.10.3.4.6.9.2 Downlink

6.10.3.4.6.9.2.1 Transport channel parameters

6.10.3.4.6.9.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.9.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.9.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.9.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.6.9.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.10.3.4.6.9.2.2 Physical channel parameters

6.10.3.4.6.9.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

6.10.3.4.6.9.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

- 6.10.3.4.6.10 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.3.4.6.10.1 Uplink
- 6.10.3.4.6.10.1.1 Transport channel parameters
- 6.10.3.4.6.10.1.1.1 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	128000	
	AMPDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8076	
	Uplink: Max number of bits/radio frame before rate matching	4038	
RM attribute	125-165		

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

See clause 6.10.3.4.1.28.1.1.1.

- 6.10.3.4.6.10.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

- 6.10.3.4.6.10.1.1.3 TFCS

TFCS size	40
TFCS	(128 kbps RAB, 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1)

- 6.10.3.4.6.10.1.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF2 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	4272 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

- 6.10.3.4.6.10.2 Downlink
- 6.10.3.4.6.10.2.1 Transport channel parameters
- 6.10.3.4.6.10.2.1.1 Transport channel parameters for HS-DSCH
- 6.10.3.4.6.10.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	640
	Max data rate, bps	depends on UE category NOTE1
	AMD PDU header, bit	16
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	656
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	10 ms
	Coding type	TC
	CRC, bit	24
NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).		

- 6.10.3.4.6.10.2.1.1.2 MAC-d flow parameters for Streaming / unknown / DL: [max bit rate depending on UE category] kbps / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

- 6.10.3.4.6.10.2.1.2 Transport channel parameters for DCH

- 6.10.3.4.6.10.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

- 6.10.3.4.6.10.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

- 6.10.3.4.6.10.2.2 Physical channel parameters

- 6.10.3.4.6.10.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

- 6.10.3.4.6.10.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

- 6.10.3.4.6.11 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

- 6.10.3.4.6.11.1 Uplink

- 6.10.3.4.6.11.1.1 Transport channel parameters

- 6.10.3.4.6.11.1.1.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.10.3.4.6.11.1.1.2 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

See clause 6.10.3.4.6.10.1.1.1.

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.6.11.1.1.5 TFCS

TFCS size	120
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF1,TF2,TF0), (TF1,TF0,TF0,TF1,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF2,TF0), (TF1,TF0,TF0,TF2,TF2,TF0), (TF2,TF1,TF1,TF2,TF2,TF0), (TF0,TF0,TF0,TF3,TF2,TF0), (TF1,TF0,TF0,TF3,TF2,TF0), (TF2,TF1,TF1,TF3,TF2,TF0), (TF0,TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF0,TF3,TF0), (TF2,TF1,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF1,TF3,TF0), (TF1,TF0,TF0,TF1,TF3,TF0), (TF2,TF1,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF2,TF3,TF0), (TF1,TF0,TF0,TF2,TF3,TF0), (TF2,TF1,TF1,TF2,TF3,TF0), (TF0,TF0,TF0,TF3,TF3,TF0), (TF1,TF0,TF0,TF3,TF3,TF0), (TF2,TF1,TF1,TF1,TF3,TF3,TF0), (TF0,TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF0,TF4,TF0), (TF2,TF1,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF1,TF4,TF0), (TF1,TF0,TF0,TF1,TF4,TF0), (TF2,TF1,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF2,TF4,TF0), (TF1,TF0,TF0,TF2,TF4,TF0), (TF2,TF1,TF1,TF2,TF4,TF0), (TF0,TF0,TF0,TF3,TF4,TF0), (TF1,TF0,TF0,TF3,TF4,TF0), (TF2,TF1,TF1,TF3,TF4,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1), (TF0,TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF1,TF2,TF1), (TF1,TF0,TF0,TF1,TF2,TF1), (TF2,TF1,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF2,TF2,TF1), (TF1,TF0,TF0,TF2,TF2,TF1), (TF2,TF1,TF1,TF2,TF2,TF1), (TF0,TF0,TF0,TF3,TF2,TF1), (TF1,TF0,TF0,TF3,TF2,TF1), (TF2,TF1,TF1,TF3,TF2,TF1), (TF0,TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF0,TF3,TF1), (TF2,TF1,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF1,TF3,TF1), (TF1,TF0,TF0,TF1,TF3,TF1), (TF2,TF1,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF2,TF3,TF1), (TF1,TF0,TF0,TF2,TF3,TF1), (TF2,TF1,TF1,TF2,TF3,TF1), (TF0,TF0,TF0,TF3,TF3,TF1), (TF1,TF0,TF0,TF3,TF3,TF1), (TF2,TF1,TF1,TF3,TF3,TF1), (TF0,TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF0,TF4,TF1), (TF2,TF1,TF1,TF0,TF4,TF1), (TF0,TF0,TF0,TF1,TF4,TF1), (TF1,TF0,TF0,TF1,TF4,TF1), (TF2,TF1,TF1,TF1,TF4,TF1), (TF0,TF0,TF0,TF2,TF4,TF1), (TF1,TF0,TF0,TF2,TF4,TF1), (TF2,TF1,TF1,TF2,TF4,TF1), (TF0,TF0,TF0,TF3,TF4,TF1), (TF1,TF0,TF0,TF3,TF4,TF1), (TF2,TF1,TF1,TF3,TF4,TF1)

6.10.3.4.6.11.1.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF2 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	4272 bits
	TFCI code word	16 bits
	Puncturing limit	0.44

6.10.3.4.6.11.2 Downlink

6.10.3.4.6.11.2.1 Transport channel parameters

6.10.3.4.6.11.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.6.11.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB

See clause 6.10.3.4.6.10.2.1.1.1.

6.10.3.4.6.11.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.6.11.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.10.3.4.6.11.2.1.2.3 TFCS

See clause 6.10.3.4.1.4.2.1.3.

6.10.3.4.6.11.2.2 Physical channel parameters

6.10.3.4.6.11.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.4.2.2.

6.10.3.4.6.11.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

**6.10.3.4.7 Combinations on HS-PDSCH and E-PUCH**

6.10.3.4.7.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.10.3.4.7.1.1 Uplink

6.10.3.4.7.1.1.1 Transport channel parameters

6.10.3.4.7.1.1.1.1 Transport channel parameters for E-DCH

6.10.3.4.7.1.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	Depends on UE category and TTI
	AMD PDU header, bit	16
MAC	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-e/es header fixed part, bit	18
Layer 1	TrCH type	E-DCH
	TTI	10ms
	Coding type	TC
	CRC, bit	24

6.10.3.4.7.1.1.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.1.1.1.

6.10.3.4.7.1.1.2 Physical channel parameters

6.10.3.4.7.1.1.2.1 Physical channel parameters on E-PUCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE E-DCH Physical Layer category 1:

E-PUCH	Number of processes	4
	Max Data Rate	1.7360Mbps

UE E-DCH Physical Layer category 2:

E-PUCH	Number of processes	4
	Max Data Rate	3.4752Mbps

UE E-DCH Physical Layer category 3:

E-PUCH	Number of processes	4
	Max Data Rate	5.2416Mbps

UE E-DCH Physical Layer category 4:

E-PUCH	Number of processes	4
	Max Data Rate	6.9536Mbps

UE E-DCH Physical Layer category 5:

E-PUCH	Number of processes	4
	Max Data Rate	10.4864Mbps

6.10.3.4.7.1.1.2.2 Physical channel parameters for DPCH

See clause 6.10.3.4.1.2.1.2



## 6.10.3.4.7.1.2 Downlink

See clause 6.10.3.4.6.1.2.

6.10.3.4.7.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

## 6.10.3.4.7.3.1 Uplink

See clause 6.10.3.4.7.1.1.

## 6.10.3.4.7.3.1.2 Physical channel parameters

## 6.10.3.4.7.3.1.2.1 Physical channel parameters on E-PUCH

See clause 6.10.3.4.7.1.1.2.1.

## 6.10.3.4.7.3.2 Downlink

## 6.10.3.4.7.3.2.1 Transport channel parameters

## 6.10.3.4.7.3.2.1.1 Transport channel parameters for HS-DSCH

6.10.3.4.7.3.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.3.4.6.1.2.1.1.1.

6.10.3.4.7.3.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	Depends on UE category (NOTE)			
	AMD PDU header, bit	8	16	16	16
MAC	MAC-d header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
	MAC-d PDU size, bit	148			
	MAC-hs header fixed part, bit	21			
Layer 1	TrCH type	HS-DSCH			
	TTI	10 ms			
	Coding type	TC			
	CRC, bit	24			
NOTE:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).				

## 6.10.3.4.7.3.2.2 Physical channel parameters

## 6.10.3.4.7.3.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.10.3.4.6.1.2.2.2.

6.10.3.4.7.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

## 6.10.3.4.7.4.1 Uplink

## 6.10.3.4.7.4.1.1 Transport channel parameters

## 6.10.3.4.7.4.1.1.1 Transport channel parameters for E-DCH

- 6.10.3.4.7.4.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.10.3.4.7.1.1.1.1.1.
- 6.10.3.4.7.4.1.1.2 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB
- See clause 6.10.3.4.1.4.1.1.1.
- 6.10.3.4.7.4.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.10.3.4.1.2.1.1.1.
- 6.10.3.4.7.4.1.1.4 TFCS
- See clause 6.10.3.4.1.4.1.1.3.
- 6.10.3.4.7.4.1.2 Physical channel parameters
- 6.10.3.4.7.4.1.2.1 Physical channel parameters on E-PUCH
- See clause 6.10.3.4.7.1.1.2.1.
- 6.10.3.4.7.4.1.2.2 Physical channel parameters on DCH
- See clause 6.10.3.4.1.4.1.2.
- 6.10.3.4.7.4.2 Downlink
- See clause 6.10.3.4.6.3.2.
- 6.10.3.4.7.5 Streaming or interactive or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH
- 6.10.3.4.7.5.1 Uplink
- 6.10.3.4.7.5.1.1 Transport channel parameters
- 6.10.3.4.7.5.1.1.1 Transport channel parameters for E-DCH
- MAC-e multiplexing between all MAC-d flows in the same MAC-e PDU shall be configured.
- 6.10.3.4.7.5.1.1.1.1 MAC-d flow #1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.10.3.4.7.1.1.1.1.1.
- 6.10.3.4.7.5.1.1.1.2 MAC-d flow #2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.10.3.4.7.1.1.1.1.1.
- 6.10.3.4.7.5.1.1.1.3 MAC-d flow #3 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH
- See clause 6.10.3.4.7.2.1.1.1.2.
- 6.10.3.4.7.5.1.2 Physical channel parameters
- 6.10.3.4.7.5.1.2.1 Physical channel parameters on E-PUCH
- See clause 6.10.3.4.7.1.1.2.1.

6.10.3.4.7.5.2 Downlink

See clause 6.10.3.4.6.3.2.