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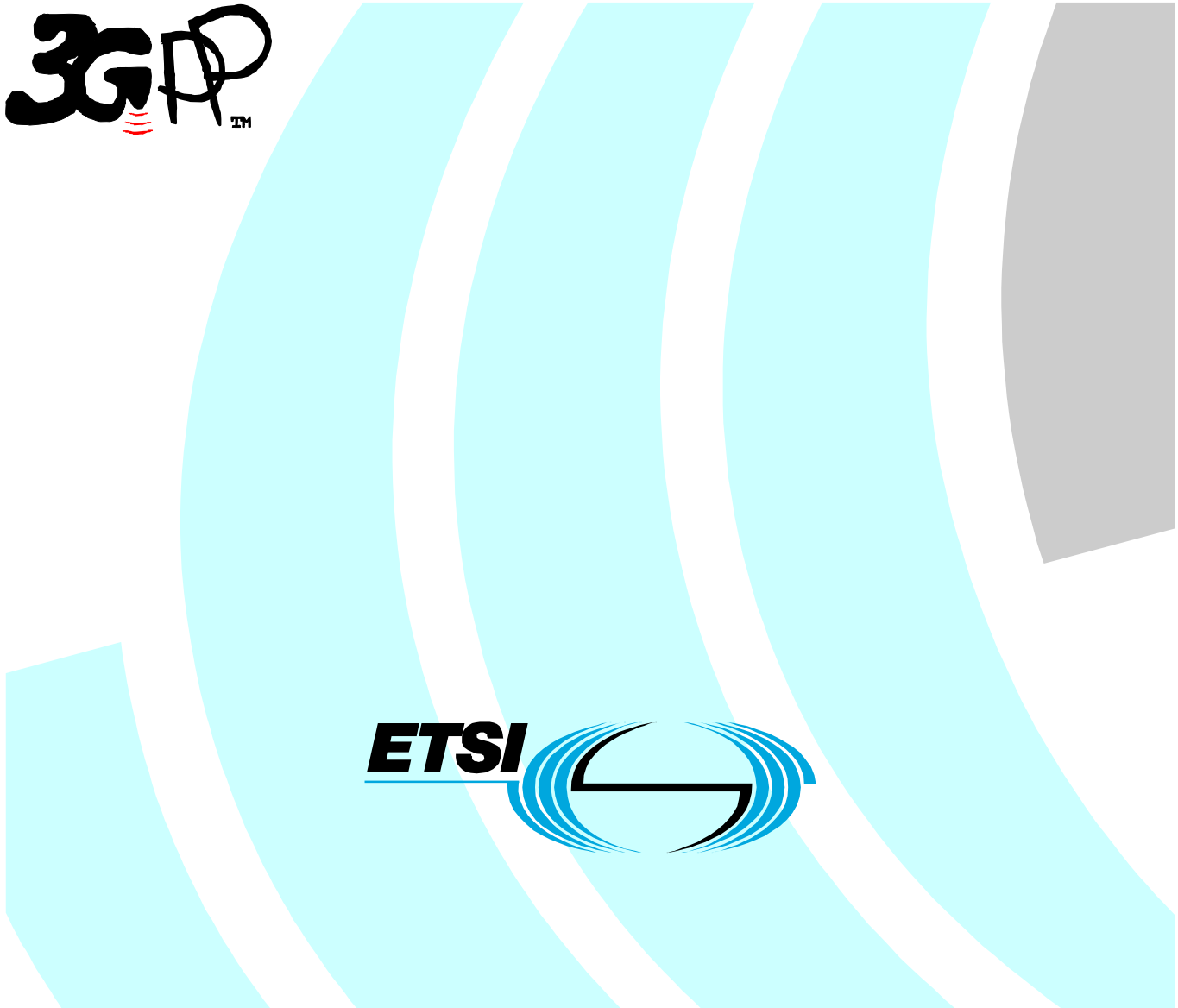
Technical Report

**Universal Mobile Telecommunications System (UMTS);
Typical examples of Radio Access Bearers (RABs) and
Radio Bearers (RBs) supported by
Universal Terrestrial Radio Access (UTRA)
(3GPP TR 25.993 version 6.9.0 Release 6)**



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Contents

Foreword

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1 Scope

The present document provides a list of examples of RABs and RAB combinations which are supported by UTRA with examples of radio interface mapping for these RABs onto Radio Bearers and Signalling Radio Bearers.

This list of examples describes typical parameters, and should only be understood as possible configurations i.e. any other configuration supported by the Core Specifications and consistent with a given UE capability shall also be supported by this UE.

The present document addresses the FDD mode as well as the TDD mode.

This report is a release independent report. This means that the latest release applicable to 3GPP is the reference that this TR is defined upon, and contains information on all previous releases. Actual release where a given example applies is indicated in the relevant section.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
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- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 34.108: "Common Test Environments for User Equipment (UE) Conformance Testing"

[2] 3GPP TS 23.107: "Quality of Service (QoS) concept and architecture".

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

[4] 3GPP TS 25.322: "RLC Protocol Specification".

[5] 3GPP TS 25.323: "PDCP Protocol Specification".

[6] 3GPP TS 25.331: "Radio Resource Control (RRC); protocol specification".

[7] IETF RFC 2507: "IP Header Compression".

[8] 3GPP TS 25.306: "UE Radio Access Capabilities"

[9] IETF RFC 3095: "RObust Header Compression (ROHC): Framework and four profiles: RTP, UDP, ESP, and uncompressed".

[10] 3GPP TS 26.236: "Packet switched conversational multimedia applications; Transport protocols"

[11] 3GPP TS 26.234: "Transparent end-to-end packet switched streaming service (PSS); Protocols and codecs"

[12] IETF RFC1889: "RTP: A Transport Protocol for Real-Time Applications"

[13] IETF RFC3267: "Real-Time Transport Protocol (RTP) Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs"

[14] 3GPP TR 26.937: "Transparent end-to-end packet switched streaming service (PSS); RTP usage model"

[15] 3GPP TS 26.235: "Packet switched conversational multimedia applications; Default codecs"

[16] IETF RFC2793: "RTP Payload for Text Conversation"

3 Abbreviations and Terms

3.1 Abbreviations

For the purposes of the present document, the abbreviations contained in TR 21.905 apply, as well as the following:

DL	Downlink.
HC	Header Compression
IETF	Internet Engineering Task Force
I/B	Interactive / Background
IP	Internet Protocol
kbps	kilo-bits per second.
RAB	Radio Access Bearer
RB	Radio Bearer
RNC	Radio Network Controller
ROHC	Robust Header Compression
RT	Real-time.
RTP	Real-time Transport Protocol
RTCP	Real-time Transport Control Protocol
RTSP	Real-time Streaming Protocol
SIP	Session Initiation Protocol
SRB	Signalling Radio Bearer.
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
UL	Uplink.

3.2 Terms

Bearer	Common term used to refer to RAB, RB, and/or SRB, when there is no need to distinguish between these terms.
Radio Access Bearer	Bearer terminating in CN.
Radio Bearer	User plane bearer on RAN level
Signalling Radio Bearer	RAN level bearer for RRC and NAS signalling. User plane signalling bearer (e.g., the bearer for SIP signalling) is not SRB, but RB.

NOTE: In [1] also the RAN level bearers are called as RABs. In order to maintain consistency with [1], the term RAB is used instead of RB also in this document in similar contexts as in [1].

4 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 [2].

The UMTS Bearer Service consists of two parts, the Radio Access Bearer (RAB) Service and the Core Network Bearer Service. The Radio Access Bearer Service is realised by a Radio Bearer (RB) Service and an Iu-Bearer Service. The relationship between the services is illustrated in figure 4.1.

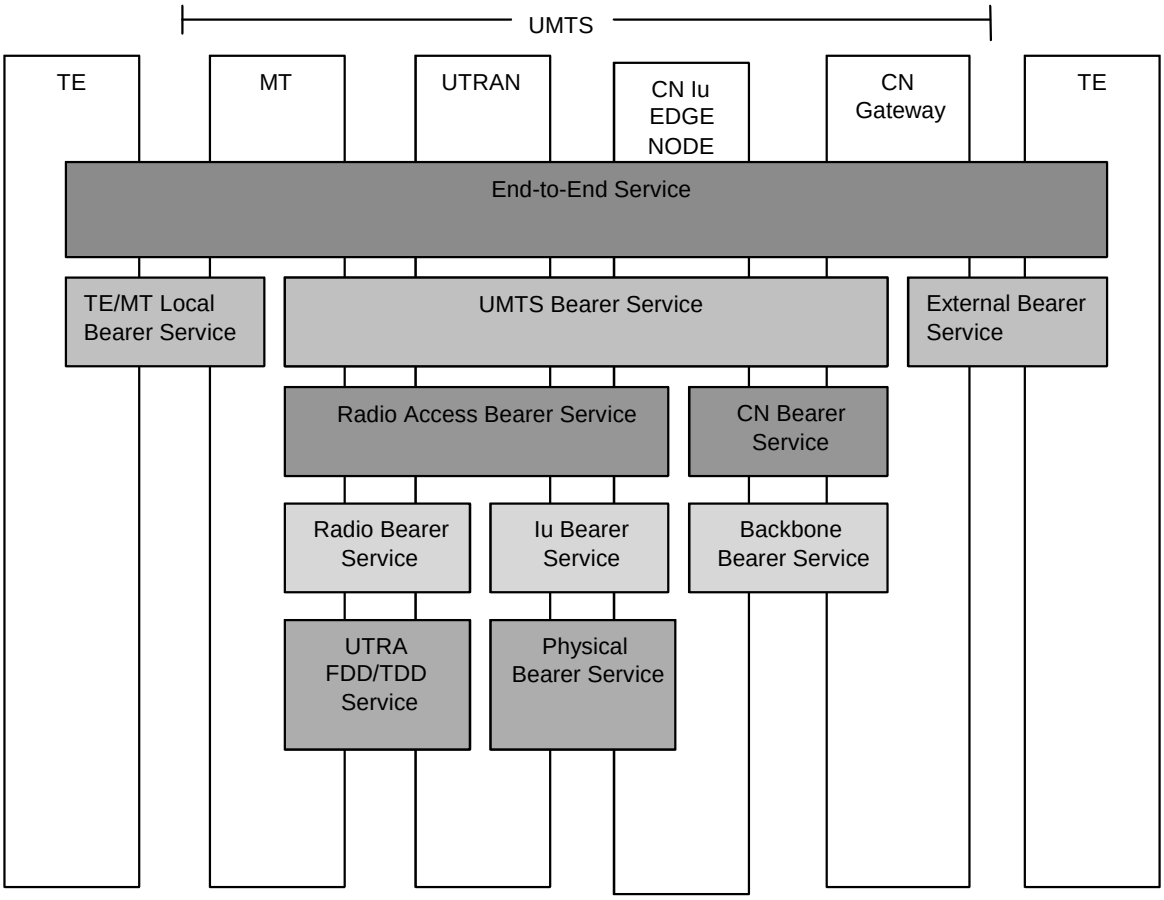

Figure 4.1: UMTS QoS Architecture

The Radio Access Bearer (RAB) Service is characterised by a number of attributes such as Traffic class, Maximum bit rate, Guaranteed bit rate, SDU error ratio, Residual BER, Transfer Delay etc. As a first approach the four following attributes have been considered to come up with the parameter settings in clause 7 for FDD mode and 8 for TDD mode:

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

The Traffic classes are explained in table 4.1. The Maximum bit rate has been considered at RLC layer and Physical Layer for the acknowledged and unacknowledged modes respectively. The Residual BER is understood as BER at RLC layer and Transport BLER for the acknowledged and unacknowledged modes respectively.

Table 4.1: Traffic classes

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

5 List of RABs and SRBs

The following table provides examples of Radio Access Bearers (RABs) which can be realised by Radio Bearers (RBs) as defined in clauses 7 and 8. The data rate given for each RAB is the maximum data rate that can be supported by that RAB.

The mapping between Radio Access Bearer and Radio Bearer is internal to UTRAN Radio Resource Management and not standardised. Based on certain Radio Access Bearer attributes, resource utilisation or radio conditions, different Radio Bearers can fulfill the Radio Access Bearer requirements.

Table 5.1: Examples of Radio Access Bearers (RABs).

#	Traffic class [2]	SSD	Max. rate, kbps	CS/PS
1	Conversational	Speech	UL:12.2 DL:12.2	CS
2	Conversational	Speech	UL:10.2 DL:10.2	CS
3	Conversational	Speech	UL:7.95 DL:7.95	CS
4	Conversational	Speech	UL:7.4 DL:7.4	CS
5	Conversational	Speech	UL:6.7 DL:6.7	CS
6	Conversational	Speech	UL:5.9 DL:5.9	CS
7	Conversational	Speech	UL:5.15 DL:5.15	CS
8	Conversational	Speech	UL:4.75 DL:4.75	CS
9	Conversational	Unknown	UL:28.8 DL:28.8	CS
10	Conversational	Unknown	UL:64 DL:64	CS
11	Conversational	Unknown	UL:32 DL:32	CS
12	Conversational	Unknown	UL:8 DL:8	PS
13	Conversational	Unknown	UL:16 DL:16	PS
14	Streaming	Unknown	UL:14.4 DL:14.4	CS
15	Streaming	Unknown	UL:28.8 DL:28.8	CS
16	Streaming	Unknown	UL:57.6 DL:57.6	CS
17	Streaming	Unknown	UL:0 DL:64	CS
18	Streaming	Unknown	UL:16 DL:64	PS
19	Streaming	Unknown	UL:64 DL:0	CS
20	Streaming	Unknown	UL:8 DL:16	PS
21	Streaming	Unknown	UL:8 DL:32	PS
22	Streaming	Unknown	UL:16 DL:64	PS
23	Streaming	Unknown	UL:32 DL:256	PS
24	Void			
25	Streaming	Unknown	UL:16 DL:128	PS
26	Void			
27	Void			
28	Interactive or Background	N/A	UL:32 DL:8	PS
29	Interactive or Background	N/A	UL:8 DL:8	PS
30	Interactive or Background	N/A	UL:16 DL:16	PS
31	Interactive or Background	N/A	UL:32 DL:32	PS
32	Interactive or Background	N/A	UL:64 DL:8	PS
33	Interactive or Background	N/A	UL:32 DL:64	PS
34	Interactive or Background	N/A	UL:64 DL:64	PS
35	Interactive or Background	N/A	UL:64 DL:128	PS
36	Interactive or Background	N/A	UL:128 DL:128	PS
37	Interactive or Background	N/A	UL:64 DL:384	PS
38	Interactive or Background	N/A	UL:128 DL:384	PS
39	Interactive or Background	N/A	UL:384 DL:384	PS
40	Interactive or Background	N/A	UL:64 DL:2048	PS
41	Interactive or Background	N/A	UL:128 DL:2048	PS
42	Interactive or Background	N/A	UL:384 DL:2048	PS
43	Interactive or Background	N/A	UL:64 DL:256	PS
44	Interactive or Background	N/A	UL:0 DL:32	PS
45	Interactive or Background	N/A	UL:32 DL: 0	PS
46	Interactive or Background	N/A	UL:0 DL:0	PS
47	Interactive or Background	N/A	UL:64 DL:144	PS
48	Interactive or Background	N/A	UL:144 DL:144	PS
49	Interactive or Background	N/A	UL:128 DL:32	PS
50	Streaming	Unknown	UL:16 DL:16	PS
51	Streaming	Unknown	UL:16 DL:32	PS
52	Interactive or Background	N/A	UL:16 DL:32	PS
53	Interactive or Background	N/A	UL:16 DL:64	PS
54	Interactive or Background	N/A	UL:16 DL:128	PS
55	Streaming	Unknown	UL:128 DL:16	PS
56	Conversational	Speech	UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6)	CS
57	Conversational	Unknown	UL:42.8 DL:42.8	PS
58	Interactive or Background	N/A	UL:128 DL:64	PS

59	Interactive or Background	N/A	UL:384 DL:64	PS
60	Interactive or Background	N/A	UL:384 DL:128	PS

Table 5.2 provides examples of Signalling Radio Bearers (SRBs) which can use configurations as defined in clauses 7 and 8.

Table 5.2: Signalling Radio Bearers (SRBs)

#	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. 40.8)	DCCH	SCCPCH
5	UL:16.6	CCCH	PRACH
6	DL:30.4 (alt. 45.6)	CCCH	SCCPCH
7	DL:33.2 (alt. 49.8)	BCCH:	SCCPCH
8	DL:24 (alt. 6.4)	PCCH	SCCPCH
9	UL:16.8 (TDD)	SHCCH	PRACH
10	UL:16.8 (TDD)	SHCCH	PRACH or PUSCH
11	DL:16 (TDD)	SHCCH	SCCPCH
12	DL:16 (TDD)	SHCCH	SCCPCH or PUSCH
13	DL: 0.15	DCCH	DPCH

6 Combinations of RABs

The present document contains examples of Radio configuration for following combinations of RABs.

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

List of RAB combinations:

Combinations on DPCH

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

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

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

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

5) Conversational / speech / UL:(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. (FDD)

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

7) 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. (FDD)

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

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

10) 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. (FDD)

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

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

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

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

15) Conversational / unknown / UL:28.8 DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

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

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

18) Streaming / unknown / UL:14.4 DL:14.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

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

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

21) Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

22) Streaming / unknown / UL:64 DL:0 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

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

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

25) Interactive or background / UL:16 DL:16 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH. (FDD)

26) Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH. (FDD)

27) Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI, RLC PDU size 320, alt. 640)
+ UL:3.4 DL:3.4 kbps SRBs for DCCH. (FDD)

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

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

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

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

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

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

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

35) Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.

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

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

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

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

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

41) Interactive or background / UL:384 DL:2048 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:32 DL:8 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:0 DL:0 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (FDD)

44) 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 (FDD)

45) 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 (FDD)

45a) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:32 kbps / PS RAB (20ms TTI)
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (FDD)

46) 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 (FDD)

47) 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. (FDD)

48) 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. (FDD)

49) 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. (FDD)

50) 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. (FDD)

51) 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. (FDD)

52) 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. (FDD)

53) 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.

54) 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.

55) 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.

56) 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.

57) 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.

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

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

60) 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.

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

62) 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.

63) 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. (FDD)

64) 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.

65) 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.

66) 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. (FDD)

67) 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. (FDD)

68) 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.

69) 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.

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

71) 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. (FDD)

72) 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. (FDD)

73) 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. (FDD)

74) 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.

75) 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

NOTE: Conversational / unknown / UL:8 DL:8 kbps / PS RAB – TF0 contains zero Transport Blocks

76) 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

NOTE: Conversational / unknown / UL:8 DL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size

77) Conversational / unknown / UL:16 DL:16 kbps / PS RAB +
Interactive or Background / UL:8 DL:8 kbps / PS RAB +
UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 DL:16 kbps / PS RAB – TF0 contains zero Transport Blocks

78) Conversational / unknown / UL:16 DL:16 kbps / PS RAB +
Interactive or Background / UL:8 DL:8 kbps / PS RAB +
UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 DL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size

79) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or Background / UL:0 DL:0 kbps / PS RAB
+ Interactive or Background / UL:0 DL:0 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

79a) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:0 DL:0 kbps / PS RAB
+ Interactive or background / UL:0 DL:0 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD)

80) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ 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

81) Streaming / unknown / UL:8 DL:16 kbps / PS RAB
+ Interactive or Background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

82) Streaming / unknown / UL:8 DL:32 kbps / PS RAB +
Interactive or Background / UL:8 DL:8 kbps / PS RAB +
UL:3.4 DL:3.4 kbps SRBs for DCCH

83) Streaming / unknown / UL:32 DL:256 kbps / PS RAB +
Interactive or Background / UL:8 DL:8 kbps / PS RAB +
UL:3.4 DL:3.4 kbps SRBs for DCCH

84) 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

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

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

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

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

89) Interactive or background / UL:128 DL:32 kbps / PS RAB +
Interactive or Background / UL:128 DL:32 kbps / PS RAB +
UL:3.4 DL:3.4 kbps SRBs for DCCH

90) Streaming / unknown / UL: 16 DL:16 kbps / PS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

91) Streaming / unknown / UL: 16 DL:32 kbps / PS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

92) Interactive or background / UL: 16 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

93) Interactive or background / UL: 16 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

94) Interactive or background / UL: 16 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

95) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ 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

96) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL: 128 DL:16 kbps / PS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

97) 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

98) Interactive or background / UL:32 DL:64 kbps / PS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD)

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

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

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

102) Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kb/s Signalling Radio Bearers for DCCH

103) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 64kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

104) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

105) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 384kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

106) 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

107) Conversational / speech / UL:(15.85 12.65 8.85 6.6) DL:(15.85 12.65 8.85 6.6) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

108) Conversational / speech / UL:(23.85 12.65 8.85 6.6) DL:(23.85 12.65 8.85 6.6) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

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) 16 kbps RB for CTCH (FDD)
+ SRB for CCCH
+ SRB for BCCH

5) RB for CTCH (FDD)
+ Interactive or background / DL: 32 kbps / PS RAB
+ SRB for PCCH
+ SRB for CCCH
+ SRBs for DCCH
+ SRB for BCCH

6) Interactive or background / DL:16 kbps / PS RAB
+ SRB for CCCH
+ SRBs for DCCH
+ SRB for BCCH.

7) 8 kbps RB for CTCH (FDD)
+ SRB for CCCH
+ SRB for BCCH

8) Interactive or background / DL:32 kbps / PS RAB (RLC size 320 bits)
+ Interactive or background / DL:32 kbps / PS RAB (RLC size 640 bits)
+ SRB for PCCH
+ SRB for CCCH
+ SRBs for DCCH
+ SRB for BCCH.

Combinations on PRACH

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

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

Combinations on PDSCH, SCCPCH, PUSCH and PRACH (TDD)

1) Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL:16.8 DL:16 kbps for SHCCH.

2) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL:16.8 DL:16 kbps for SHCCH.

3) Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL:16.8 DL:16 kbps for SHCCH.

Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH (TDD)

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) Conversationnal / 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:2048 kbps / PS RAB
+ UL:16.8 kbps SRBs for CCCH and SHCCH
+ DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

Combinations on DPCH and HS-PDSCH

1) Conversational / unknown / UL:42.8 DL:[max bit rate depending on UE category] kbps / PS RAB
+ interactive or background UL:16 DL:[max bit rate depending on UE category] kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

1b) 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

2) 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

3) Void

4) Void

5) Void

6) Interactive or background / UL:128 DL:[Bit rate depending on the UE category] / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

7) 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:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

8) 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:128 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

9) 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.

10) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL: [Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

11) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

12) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

7 Examples of Radio Bearers and Signalling Radio Bearers for FDD

7.1 Combinations on DPCH

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

See subclause 6.10.2.4.1.1 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps with support of DL SF = 512.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.3 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.4 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

7.1.5 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

See subclause 6.10.2.4.1.4a of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.5 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

7.1.7 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

See subclause 6.10.2.4.1.5a of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.6 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.7 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

7.1.10 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

See subclause 6.10.2.4.1.7a of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.8 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.9 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.10 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.11 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps with support of turbo encoding and 'Maximum sum of number of bits of all transport blocks being transmitted at an arbitrary time instant' = 1280, DL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

7.1.21.1 Uplink

7.1.21.1.1 Transport channel parameters

7.1.21.1.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS RAB

N/A

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

6.10.2.4.1.18.1.1.3 TFCS

See subclause 6.10.2.4.1.2.1.1.2 of [1].

7.1.21.1.2 Physical channel parameters

See subclause 6.10.2.4.1.2.1.2 of [1].

7.1.21.2 Downlink

7.1.21.2.1 Transport channel parameters

7.1.21.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		64000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0x320 (alt. 1x0) (note)
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165
NOTE: Alternative 1x0 is used to have CRC present in all transport formats.			

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.21.2.1.3 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)

7.1.21.2.2 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	2100

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 64 kbps plus support for 'Maximum total number of transport blocks received within TTIs that end at the same time' = 16.

This is supported in Release '99.

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

7.1.22.1 Uplink

7.1.22.1.1 Transport channel parameters

7.1.22.1.1.1 Transport channel parameters for Streaming / unknown / UL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		64000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		320
	TFS	TF0, bits	0x320
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Uplink: Max number of bits/radio frame before rate matching		2019
	RM attribute		125-165

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.22.1.1.3 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)

7.1.22.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1

7.1.22.2 Downlink

7.1.22.2.1 Transport channel parameters

7.1.22.2.1.1 Transport channel parameters for Streaming / unknown / DL:0 kbps / CS RAB

N/A.

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.22.2.1.3 TFCS

See subclause 6.10.2.4.1.2.2.1.2 of [1].

7.1.22.2.2 Physical channel parameters

See subclause 6.10.2.4.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps. For the alternative UL configuration, the minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23a of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23b of [1]

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

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

7.1.27.1 Uplink

See subclause 6.10.2.4.1.23d.1 of [1].

7.1.27.2 Downlink

7.1.27.2.1 Transport channel parameters

7.1.27.2.1.1 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 alt.640
	Max data rate, bps		32000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336 alt. 656
	TFS	TF0, bits	0x336 alt. 0x656
		TF1, bits	1x336 alt. 1x656
		TF2, bits	2x336 alt. none
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2124 alt. 2028
	RM attribute		135-175 alt. tbd

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.27.2.1.3 TFCS

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

7.1.27.2.2 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

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99, the alt. is supported in Release 5.

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

7.1.28.1 Uplink

7.1.28.1.1 Transport channel parameters

7.1.28.1.1.1 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		64000
	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		4236
	Uplink: Max number of bits/radio frame before rate matching		2118
	RM attribute		130-170

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.28.1.1.3 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)

7.1.28.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	0.96

7.1.28.2 Downlink

See subclause 6.10.2.4.1.23.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 12 plus support for turbo decoding and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 640. The minimum UE class to support the alternative DL configuration is DL: 12kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps. The minimum UE class to support the alternative UL configuration (10ms TTI) is UL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 128kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 128kbps.

This is supported in Release '99.

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

7.1.35.1 On DPCH

See subclause 6.10.2.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps plus support for 'Maximum number of physical channel bits received in any 10ms interval' = 9600. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 384kbps.

This is supported in Release '99.

7.1.35.2 On PDSCH and DPCH

7.1.35.2.1 Uplink

See clause 6.10.2.4.1.24.1 of [1].

7.1.35.2.2 Downlink

7.1.35.2.2.1 Transport channel parameters

7.1.35.2.2.1.1 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		384000
	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	N/A (alt. 12x354)
		TF6, bits	N/A (alt. 16x354)
	TTI, ms		10(alt. 20)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8892(alt. 17784)
	RM attribute		135-175

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.35.2.2.1.3 TFCS

PDSCH	TFCS size	5 (alt.7)
	TFCS	256 kbps RAB =TF0, TF1, TF2, TF3, TF4 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6)
DPCH Downlink associated with PDSCH	TFCS size	2
	TFCS	SRBs for DCCH = TF0, TF1

7.1.35.2.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh		Interactive or background / 256 kbps / PS RAB, DSCH
	DTX position		N/A (SingleTrCH)
	Minimum spreading factor		8
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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps plus support for PDSCH plus support for 'Maximum number of physical channel bits received in any 10ms interval' = 9600. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 384kbps plus support for PDSCH.

This is supported in Release '99.

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

7.1.36.1 On DPCH

See subclause 6.10.2.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

7.1.36.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps plus support for PDSCH. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 384kbps. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 384kbps, DL: 384kbps. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

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

7.1.39.1 On DPCH

See subclause 6.10.2.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 2048kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

7.1.39.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 2048kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

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

7.1.40.1 Uplink

See subclause 6.10.2.4.1.28.1 of [1].

7.1.40.2 Downlink

See subclause 6.10.2.4.1.35.2 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 2048 kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the

TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

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

7.1.41.1 Uplink

See subclause 6.10.2.4.1.34.1 of [1].

7.1.41.2 Downlink

See subclause 6.10.2.4.1.35.2 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps, DL: 2048 kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

7.1.42 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

See subclause 6.10.2.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps.

This is supported in Release '99.

7.1.43 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

See subclause 6.10.2.4.1.38a of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 12 kbps plus support for 'Maximum number of simultaneous transport channels' = 5.

This is supported in Release '99.

7.1.44 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

See subclause 6.10.2.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32 kbps.

This is supported in Release '99.

7.1.45 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

See subclause 6.10.2.4.1.38c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.45a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB (20ms TTI)+ UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.45a.1 Uplink

7.1.45a.1.1 Transport channel parameters

7.1.45a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.2.4.1.4.1.1.1 of [1]

7.1.45a.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See subclause 6.10.2.4.1.23d.1.1.1 of [1]

7.1.45a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.45a.1.1.4 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)

7.1.45a.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1.0

7.1.45a.2 Downlink

7.1.45a.2.1 Transport channel parameters

7.1.45a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See subclause 6.10.2.4.1.4.2.1.1 of [1]

7.1.45a.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See subclause 6.10.2.4.1.23d.2.1.1 of [1]

7.1.45a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.45a.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)

7.1.45a.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	2100

7.1.46 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

See subclause 6.10.2.4.1.38d of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.47 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

See subclause 6.10.2.4.1.38e of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 12 kbps plus support for 'Maximum number of simultaneous transport channels' = 5.

This is supported in Release '99.

7.1.48 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

See subclause 6.10.2.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32 kbps.

This is supported in Release '99.

7.1.49 Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps DL: (12.2 7.95 5.9 4.75) / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.38g of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.50 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

See subclause 6.10.2.4.1.38h of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.51 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

See subclause 6.10.2.4.1.38i of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.52 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

See subclause 6.10.2.4.1.38j of [1].

The minimum UE classes supporting this combination are UL: 64kbp, DL: 128kbps.

This is supported in Release '99.

7.1.53 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

See subclause 6.10.2.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.54 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

See subclause 6.10.2.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.55 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

See subclause 6.10.2.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.56 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

7.1.56.1 On DPCH

See subclause 6.10.2.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 384 kbps.

This is supported in Release '99.

7.1.56.2 On PDSCH and DPCH

7.1.56.2.1 Uplink

See clause 6.10.2.4.1.40.1 of [1].

7.1.56.2.2 Downlink

7.1.56.2.2.1 Transport channel parameters

7.1.56.2.2.1.1 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 of [1]

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

See clause 6.10.2.4.2.1.2.1.1 of [1]

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

See clause 6.10.2.4.1.2.2.1.1. of [1]

7.1.56.2.2.1.4 TFCS

PDSCH	TFCS size	5 (alt.7)
	TFCS	256 kbps RAB = TF0, TF1, TF2, TF3, TF4 (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6)
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)

7.1.56.2.2 Physical channel parameters

PDSCH	RAB or SRB, TrCh		Interactive or background / 256 kbps / PS RAB, DSCH
	DTX position		N/A (SingleTrCH)
	Minimum spreading factor		4
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh		Conversational / speech / 12.2 kbps / CS RAB, DCH + 3.4 kbps SRBs for DCCH. DCH
	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

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 384 kbps plus support of PDSCH.

This is supported in Release '99.

7.1.57 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

7.1.57.1 On DPCH

See subclause 6.10.2.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 384. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

7.1.57.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.5 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 384 kbps plus support for PDSCH. The minimum UE class to support the alternative DL configuration (20ms TTI) is DL: 768kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.2.6 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 2048 kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

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

See subclause 6.10.2.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 2048 kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

7.1.60 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

See subclause 6.10.2.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

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

7.1.61.1 Uplink

See subclause 6.10.2.4.1.4.1 of [1].

7.1.61.2 Downlink

7.1.61.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

7.1.61.2.1.2 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS RAB

See subclause 6.10.2.4.1.18.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.61.2.1.4 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)

7.1.61.2.2 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	2100

The minimum UE classes supporting this combination are UL: 12 kbps plus support for 'Maximum number of simultaneous transport channels' = 5, DL: 128kbps.

This is supported in Release '99.

7.1.62 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

See subclause 6.10.2.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.63 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

See subclause 6.10.2.4.1.49a of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.64 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

See subclause 6.10.2.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 128kbps, DL: 128kbps. The minimum UE class to support the alternative UL combination (40ms TTI) is UL: 384kbps.

This is supported in Release '99.

7.1.65 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

See subclause 6.10.2.4.1.51 of [1].

The minimum UE classes supporting this combination are UL: 128kbps, DL: 128kbps. The minimum UE class to support the alternative UL combination (40ms TTI) is UL: 384kbps.

This is supported in Release '99.

7.1.66 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

See subclause 6.10.2.4.1.51a of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.67 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

See subclause 6.10.2.4.1.51b of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.68 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

See subclause 6.10.2.4.1.52 of [1].

The minimum UE classes supporting this combination are UL: 128kbps, DL: 384kbps. The minimum UE class to support the alternative UL combination (40ms TTI) is UL: 384kbps.

This is supported in Release '99.

7.1.69 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

See subclause 6.10.2.4.1.53 of [1].

The minimum UE classes supporting this combination are UL: 384kbps, DL: 384kbps.

This is supported in Release '99.

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

7.1.70.1 Uplink

7.1.70.1.1 Transport channel parameters

7.1.70.1.1.1 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		8000	8000
	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		1080	
	Uplink: Max number of bits/radio frame before rate matching		270	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

6.10.2.4.1.56.1.1.3 TFCS

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

7.1.70.1.2 Physical channel parameters

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

7.1.70.2 Downlink

7.1.70.2.1 Transport channel parameters

7.1.70.2.1.1 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		8000	8000
	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		1080	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.70.2.1.3 TFCS

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

7.1.70.2.2 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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

7.1.71 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

See subclause 6.10.2.4.1.56 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo encoding, DL: 32kbps plus support for 5 AM entities.

This is supported in Release '99.

7.1.72 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

See subclause 6.10.2.4.1.57 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps plus support for 5 AM entities.

This is supported in Release '99.

7.1.73 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

See subclause 6.10.2.4.1.58 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps plus support for 5 AM entities.

This is supported in Release '99.

7.1.73a 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 – Alternative

This configuration optimises the flexibility of the Transport Format Selection by adding an omitted Transport Format, to the transport channel parameters given in the reference subclause 6.10.2.4.1.58 of [1], for the downlink,transport channel Streaming / unknown / DL:64 kbps PS RAB.

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps plus support for 5 AM entities.

This is supported in Release "99.

7.1.73a.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1]

7.1.73a.2 Downlink

7.1.73a.2.1 Transport channel parameters

7.1.73a.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		64000
	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	3x656
		TF4, bits	4x656
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

7.1.73a.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 of [1]

7.1.73a.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 of [1]

7.1.73a.2.1.4 TFCS

TFCS size	20
TFCS	(64 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),

7.1.73a.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	2100

7.1.74 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

See subclause 6.10.2.4.1.58a of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.75 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

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains zero Transport Blocks .

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.75.1 Uplink

7.1.75.1.1 Transport channel parameters

7.1.75.1.1.1 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		8000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Uplink: Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.75.1.1.4 TFCS

TFCS size	8
TFCS	(8 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)

7.1.75.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.75.2 Downlink

7.1.75.2.1 Transport channel parameters

7.1.75.2.1.1 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		8000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	RM attribute		135-175

7.1.75.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.75.2.1.4 TFCS

TFCS size	8
TFCS	(8 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)

7.1.75.2.2 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

7.1.76 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

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.76.1 Uplink

7.1.76.1.1 Transport channel parameters

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

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Uplink: Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.76.1.1.4 TFCS

TFCS size	8
TFCS	(8 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)

7.1.76.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.76.2 Downlink

7.1.76.2.1 Transport channel parameters

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

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	RM attribute		135-175

7.1.76.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.76.2.1.4 TFCS

TFCS size	8
TFCS	(8 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)

7.1.76.2.2 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

7.1.77 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.77.1 Uplink

7.1.77.1.1 Transport channel parameters

7.1.77.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 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		16000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Uplink: Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.77.1.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.77.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.77.2 Downlink

7.1.77.2.1 Transport channel parameters

7.1.77.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 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		16000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	RM attribute		135-175

7.1.77.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1. 38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.77.2.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.77.2.2 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

7.1.78 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

7.1.78.1 Uplink

7.1.78.1.1 Transport channel parameters

7.1.78.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		16000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Uplink: Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.78.1.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.78.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.78.2 Downlink

7.1.78.2.1 Transport channel parameters

7.1.78.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		16000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	RM attribute		135-175

7.1.78.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.78.2.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.78.2.2 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

7.1.79 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.79.1 Uplink

7.1.79.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

7.1.79.1.1.2 Transport channel parameters for Interactive or Background / UL:0 + UL:0 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		0	0
	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	
	TTI, ms		20	
	Coding type		TC	
	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		130-170	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.79.1.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+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)

7.1.79.1.2 Physical channel parameters

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

7.1.79.2 Downlink

7.1.79.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

7.1.79.2.1.2 Transport channel parameters for Interactive or Background / DL:0 + DL:0 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		0	0
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		0	
	RM attribute		130-170	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.79.2.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+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)

7.1.79.2.2 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

7.1.79a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD)

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.79a.1 Uplink

7.1.79a.1.1 Transport channel parameters

7.1.79a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.2.4.1.4.1.1.1 of [1].

7.1.79a.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 of [1].

7.1.79a.1.1.3 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.79a.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 of [1].

7.1.79a.1.1.5 TFCS

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

7.1.79a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38a.1.2 of [1].

7.1.79a.2 Downlink

7.1.79a.2.1 Transport channel parameters

7.1.79a.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 of [1].

7.1.79a.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 of [1].

7.1.79a.2.1.3 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.79a.2.1.4 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.79a.2.1.5 TFCS

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

7.1.79a.2.2 Physical channel parameters

See clause 6.10.2.4.1.38a.2.2 of [1].

7.1.80 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + 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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.80.1 Uplink

7.1.80.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.1.1.1 of [1].

7.1.80.1.1.2 Transport channel parameters for Interactive or Background / UL:8 + UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.80.1.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8+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)

7.1.80.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	0.72

7.1.80.2 Downlink

7.1.80.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

7.1.80.2.1.2 Transport channel parameters for Interactive or Background / DL:8 + DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.80.2.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8+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)

7.1.80.2.2 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	2100

7.1.81 Streaming / unknown / UL:8 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.81.1 Uplink

7.1.81.1.1 Transport channel parameters

7.1.81.1.1.1 Transport channel parameters for Streaming / unknown / 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		8000
	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		1068
	Uplink: Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.81.1.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Streaming 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)

7.1.81.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.81.2 Downlink

7.1.81.2.1 Transport channel parameters

7.1.81.2.1.1 Transport channel parameters for Streaming / unknown / DL:16 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		16000
	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
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2028
	RM attribute		125-165

7.1.81.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.81.2.1.4 TFCS

TFCS size	8
TFCS	(16 kbps Streaming 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)

7.1.81.2.2 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

7.1.82 Streaming / unknown / UL:8 DL:32 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.82.1 Uplink

7.1.82.1.1 Transport channel parameters

7.1.82.1.1.1 Transport channel parameters for Streaming / unknown / 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		8000
	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		1068
	Uplink: Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.82.1.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Streaming 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)

7.1.82.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.82.2 Downlink

7.1.82.2.1 Transport channel parameters

7.1.82.2.1.1 Transport channel parameters for Streaming / unknown / DL:32 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		32000
	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
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4044
	RM attribute		125-165

7.1.82.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1. 38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.82.2.1.4 TFCS

TFCS size	12
TFCS	(32 kbps Streaming 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.82.2.2 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	2100

7.1.83 Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

7.1.83.1 Uplink

7.1.83.1.1 Transport channel parameters

7.1.83.1.1.1 Transport channel parameters for Streaming / unknown / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	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		2124
	Uplink: Max number of bits/radio frame before rate matching		1062
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.83.1.1.4 TFCS

TFCS size	12
TFCS	(32 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1)

7.1.83.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1.0

7.1.83.2 Downlink

7.1.83.2.1 Transport channel parameters

7.1.83.2.1.1 Transport channel parameters for Streaming / unknown / DL:256 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		256000
	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	3x656
		TF4, bits	4x656
	TTI, ms		10
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

7.1.83.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1. 38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.83.2.1.4 TFCS

TFCS size	20
TFCS	(256 kbps Streaming RAB, 8 kbps I/B 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),

7.1.83.2.2 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	9120

7.1.84 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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.84.1 Uplink

7.1.84.1.1 Transport channel parameters

7.1.84.1.1.1 Transport channel parameters for Interactive or Background / UL:16 + 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		16000	16000
	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		2148	
	Uplink: Max number of bits/radio frame before rate matching		537	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.84.1.1.3 TFCS

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

7.1.84.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1.0

7.1.84.2 Downlink

7.1.84.2.1 Transport channel parameters

7.1.84.2.1.1 Transport channel parameters for Interactive or background / DL:16 + 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		16000	16000
	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		2148	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.84.2.1.3 TFCS

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

7.1.84.2.2 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

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.85.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1]

7.1.85.2 Downlink

See subclause 6.10.2.4.1.56.2 of [1]

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.

This is supported in Release '99.

7.1.86.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1]

7.1.86.2 Downlink

7.1.86.2.1 Transport channel parameters

7.1.86.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 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		128000	128000
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.86.2.1.3 TFCS

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

7.1.86.2.2 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	4320

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

7.1.87.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1].

7.1.87.2 Downlink

7.1.87.2.1 Transport channel parameters

7.1.87.2.1.1 Transport channel parameters for Interactive or background / DL:384 + DL: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		384000	384000
	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		12828	
	RM attribute		110-150	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.87.2.1.3 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)

7.1.87.2.2 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	9120

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

The minimum UE classes supporting this combination are UL: 128kbps, DL: 128kbps.

This is supported in Release '99.

7.1.88.1 Uplink

7.1.88.1.1 Transport channel parameters

7.1.88.1.1.1 Transport channel parameters for Interactive or Background / UL:128 + UL:128 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		128000	128000
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	Uplink: Max number of bits/radio frame before rate matching		4278	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.88.1.1.3 TFCS

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

7.1.88.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4800
	Puncturing Limit	0.96

7.1.88.2 Downlink

7.1.88.2.1 Transport channel parameters

7.1.88.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 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		128000	128000
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.88.2.1.3 TFCS

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

7.1.88.2.2 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	4320

7.1.89 Interactive or background / UL:128 DL:32 kbps / PS RAB + Interactive or Background / UL:128 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps, DL: 32kbps.

This is supported in Release '99.

7.1.89.1 Uplink

See subclause 7.1.88.1

7.1.89.2 Downlink

7.1.89.2.1 Transport channel parameters

7.1.89.2.1.1 Transport channel parameters for Interactive or background / DL:32 + DL: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		32000	32000
	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		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		4284	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.89.2.1.3 TFCS

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

7.1.89.2.2 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

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

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.90.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.90.2 Downlink

See subclause 7.1.81.2.

7.1.91 Streaming / unknown / UL:16 DL:32 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.91.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.91.2 Downlink

See subclause 7.1.82.2.

7.1.92 Interactive or background / UL:16 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.92.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.92.2 Downlink

See subclause 6.10.2.4.1.23c.2 of [1].

7.1.93 Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

7.1.93.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.93.2 Downlink

See subclause 6.10.2.4.1.25.2 of [1].

7.1.94 Interactive or background / UL:16 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.94.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.94.2 Downlink

See subclause 6.10.2.4.1.27.2 of [1].

7.1.95 Conversational / speech / UL:12.2 DL:12.2 kbps + 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

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in release '99.

7.1.95.1 Uplink

7.1.95.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

7.1.95.1.1.2 Transport channel parameters for Streaming / unknown / UL:16 kbps

See subclause 6.10.2.4.1.58.1.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.95.1.1.5 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 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,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)

7.1.95.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1.0

7.1.95.2 Downlink

7.1.95.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

7.1.95.2.1.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

See subclause 6.10.2.4.1.58a.2.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.95.2.1.5 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 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,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF1,TF4,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,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF1,TF4,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,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,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF1,TF4,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,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF1,TF4,TF1,TF1)

7.1.95.2.2 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	4320

7.1.96 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps, DL: 64 kbps.

This is supported in release '99.

7.1.96.1 Uplink

7.1.96.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1]

7.1.96.1.1.2 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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.96.1.1.5 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 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,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)

7.1.96.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4800
	Puncturing Limit	0.92

7.1.96.2 Downlink

7.1.96.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

7.1.96.2.1.2 Transport channel parameters for Streaming / unknown / DL:16 kbps / PS RAB

See subclause 7.1.81.2.1.1

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.96.2.1.5 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 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,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)

7.1.96.2.2 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

7.1.97 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

See subclause 6.10.2.4.1.62 of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps plus support for 'Maximum number of TFC' = 32.

This is supported in Release 5.

7.1.98 Interactive or background / UL:32 DL:64 kbps / PS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD)

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

7.1.98.1 Uplink

7.1.98.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.23.1.1.1 of [1].

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

See clause 6.10.2.4.1.23.1.1.1 of [1].

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

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.98.1.1.4 TFCS

TFCS size	18 (alt. 8)
TFCS	(I/B 32 kbps RAB, I/B 32 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1))

7.1.98.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	16
	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1

7.1.98.2 Downlink

7.1.98.2.1 Transport channel parameters

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

See clause 6.10.2.4.1.25.2.1.1 of [1].

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

See clause 6.10.2.4.1.25.2.1.1 of [1].

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.98.2.1.4 TFCS

TFCS size	50
TFCS	(I/B 64 kbps RAB, I/B 64 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, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF4, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF4, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF4, TF4, 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), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF4, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF4, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1), (TF4, TF4, TF1)

7.1.98.2.2 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	4320

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

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 64kbps.

7.1.99.1 Uplink

7.1.99.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.28.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1. of [1]

7.1.99.1.1.3 TFCS

See subclause 6.10.2.4.1.28.1.1.3 of [1]

7.1.99.1.2 Physical channel parameters

See subclause 6.10.2.4.1.28.1.2 of [1]

7.1.99.2 Downlink

7.1.99.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1. of [1]

7.1.99.2.1.3 TFCS

See subclause 6.10.2.4.1.25.2.1.3 of [1].

7.1.99.2.2 Physical channel parameters

See subclause 6.10.2.4.1.25.2.2 of [1]

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

The minimum UE classes supporting this combination are UL: 384kbps, DL: 64kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

7.1.100.1 Uplink

7.1.100.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.34.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.100.1.1.3 TFCS

See subclause 6.10.2.4.1.34.1.1.3 of [1]

7.1.100.1.2 Physical channel parameters

See subclause 6.10.2.4.1.34.1.2 of [1]

7.1.100.2 Downlink

7.1.100.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1. of [1]

7.1.100.2.1.3 TFCS

See subclause 6.10.2.4.1.25.2.1.3 of [1].

7.1.100.2.2 Physical channel parameters

See subclause 6.10.2.4.1.25.2.2 of [1].

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

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 64kbps.

7.1.101.1 Uplink

7.1.101.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.28.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.101.1.1.4 TFCS

See subclause 6.10.2.4.1.44.1.1.4 of [1]

7.1.101.1.2 Physical channel parameters

See subclause 6.10.2.4.1.44.1.2 of [1]

7.1.101.2 Downlink

7.1.101.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.101.2.1.4 TFCS

See subclause 6.10.2.4.1.39.2.1.4 of [1].

7.1.101.2.2 Physical channel parameters

See subclause 6.10.2.4.1.39.2.2 of [1].

7.1.102 Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kb/s Signalling Radio Bearers for DCCH

The minimum UE classes supporting this combination are UL: 384kbps, DL: 128kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

7.1.102.1 Uplink

7.1.102.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.102.1.1.3 TFCS

See subclause 6.10.2.4.1.34.1.1.3 of [1].

7.1.102.1.2 Physical channel parameters

See subclause 6.10.2.4.1.34.1.2 of [1].

7.1.102.2 Downlink

7.1.102.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.102.2.1.3 TFCS

See subclause 6.10.2.4.1.27.2.1.3 of [1].

7.1.102.2.2 Physical channel parameters

See subclause 6.10.2.4.1.27.2.2 of [1].

7.1.103 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 64kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

The minimum UE classes supporting this combination are UL: 384kbps, DL: 64kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

7.1.103.1 Uplink

7.1.103.1.1 Transport channel parameters

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

See clause 6.10.2.4.1.4.1.1.1. of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.103.1.1.4 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.103.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.103.2 Downlink

7.1.103.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.103.2.1.3 TFCS

See subclause 6.10.2.4.1.39.2.1.4 of [1].

7.1.103.2.2 Physical channel parameters

See subclause 6.10.2.4.1.39.2.2 of [1].

7.1.104 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

The minimum UE classes supporting this combination are UL: 384kbps, DL: 128kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

7.1.104.1 Uplink

7.1.104.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.104.1.1.3 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.104.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.104.2 Downlink

7.1.104.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See clause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.104.2.1.4 TFCS

See subclause 6.10.2.4.1.41.2.1.4 of [1].

7.1.104.2.2 Physical channel parameters

See subclause 6.10.2.4.1.41.2.2 of [1].

7.1.105 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 384kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH

The minimum UE classes supporting this combination are UL: 384kbps, DL: 384kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

7.1.105.1 Uplink

7.1.105.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.105.1.1.3 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.105.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.105.2 Downlink

7.1.105.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.32.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.105.2.1.4 TFCS

See subclause 6.10.2.4.1.43.2.1.4. of [1].

7.1.105.2.2 Physical channel parameters

See subclause 6.10.2.4.1.43.2.2 of [1].

7.1.106 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

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 12 kbps.

This is supported in Release 5.

7.1.106.1 Uplink

7.1.106.1.1 Transport channel parameters

7.1.106.1.1.1 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
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181
	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
	TB sizes, bit		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181
	TFS	TF0, bits	0x72(alt. 1x0) (note)	0x181
		TF1, bits	1x40	1x78
		TF2 bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	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		276	567
	Uplink: Max number of bits/radio frame before rate matching		138	284
	RM attribute		180-220	170-210
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 TS 25.212).				

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

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.106.1.1.3 TFCS

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

7.1.106.1.2 Physical channel parameters

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

7.1.106.2 Downlink

7.1.106.2.1 Transport channel parameters

7.1.106.2.1.1 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**
RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		0, 40, 54, 64, 72	78, 113, 181
	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
	TB sizes, bit		0, 40, 54, 64, 72	78, 113, 181
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x181
		TF1, bits	1x40	1x78
		TF2, bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	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		276	567
	RM attribute		180-220	170-210

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

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.106.2.1.3 TFCS

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

7.1.106.2.2 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

7.1.107 Conversational / speech / UL:(15.85 12.65 8.85 6.6) DL:(15.85 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 5.

7.1.107.1 Uplink

7.1.107.1.1 Transport channel parameters

7.1.107.1.1.1 Transport channel parameters for Conversational / speech / UL: (15.85 12.65 8.85 6.6) 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		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181, 245
	Max data rate, bps		15 850	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181, 245
	TFS	TF0, bits	0x72(alt. 1x0) (note)	0x245
		TF1, bits	1x40	1x78
		TF2 bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	1x245
	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		276	759
	Uplink: Max number of bits/radio frame before rate matching		138	380
	RM attribute		180-220	170-210
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 TS 25.212).				

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

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.107.1.1.3 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), (TF4,TF4,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF1,TF1), (TF3,TF2,TF1), (TF4,TF3,TF1), (TF4,TF4,TF1)

7.1.107.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	0.76

7.1.107.2 Downlink

7.1.107.2.1 Transport channel parameters

7.1.107.2.1.1 Transport channel parameters for Conversational / speech / DL: (15.85 12.65 8.85 6.6) 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, 40, 54, 64, 72	78, 113, 181, 245
	Max data rate, bps		15 850	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		0, 40, 54, 64, 72	78, 113, 181, 245
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x245
		TF1, bits	1x40	1x78
		TF2, bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	1x245
	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		276	759
	RM attribute		180-220	170-210

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

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.107.2.1.3 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), (TF4,TF4,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF1,TF1), (TF3,TF2,TF1), (TF4,TF3,TF1), (TF4,TF4,TF1)

7.1.107.2.2 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

7.1.108 Conversational / speech / UL:(23.85 12.65 8.85 6.6) DL:(23.85 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 5.

7.1.108.1 Uplink

7.1.108.1.1 Transport channel parameters

7.1.108.1.1.1 Transport channel parameters for Conversational / speech / UL: (23.85 12.65 8.85 6.6) 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		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181, 405
	Max data rate, bps		23 850	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		40, 54, 64, 72 (alt. 0, 40, 54, 64, 72)	78, 113, 181, 405
	TFS	TF0, bits	0x72(alt. 1x0) (note)	0x405
		TF1, bits	1x40	1x78
		TF2 bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	1x405
	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	276	1239
	Uplink: Max number of bits/radio frame before rate matching	138	620
	RM attribute	180-220	170-210
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 TS 25.212).			

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

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.108.1.1.3 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), (TF4,TF4,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF1,TF1), (TF3,TF2,TF1), (TF4,TF3,TF1), (TF4,TF4,TF1)

7.1.108.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1

7.1.108.2 Downlink

7.1.108.2.1 Transport channel parameters

7.1.108.2.1.1 Transport channel parameters for Conversational / speech / DL: (23.85 12.65 8.85 6.6) 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, 40, 54, 64, 72	78, 113, 181, 405
	Max data rate, bps		23 850	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		0, 40, 54, 64, 72	78, 113, 181, 405
	TFS (note 1)	TF0, bits	1x0 (note 2)	0x405
		TF1, bits	1x40	1x78
		TF2, bits	1x54	1x113
		TF3, bits	1x64	1x181
		TF4, bits	1x72	1x405
	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		276	1239
	RM attribute		180-220	170-210

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

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

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.108.2.1.3 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), (TF4,TF4,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF1,TF1), (TF3,TF2,TF1), (TF4,TF3,TF1), (TF4,TF4,TF1)

7.1.108.2.2 Physical channel parameters

DPCH Downlink	DTX position		Fixed
	Spreading factor		64
	DPCCH	Number of TFCI bits/slot	0
		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

7.2 Combinations on S-CCPCH

7.2.1 Stand-alone signalling RB for PCCH

See subclause 6.10.2.4.3.1 of [1].

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.3.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.3.2a of [1].

The minimum UE class supporting this combination is DL: 32 kbps plus support for 5 AM entities.

This is supported in Release '99.

7.2.4 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.2.4.3.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

7.2.5 16 kbps RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.10.2.4.3.4 of [1].

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

7.2.6 RB for CTCH + Interactive/Background 32 kbps PS RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

7.2.6.1 Transport channel parameters

7.2.6.1.1 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		15200
	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, bts	0x168
		TF1, bits	1x168
	TTI, ms		10
	Coding type		CC ½
	CRC, bit		16
	Max number of bits/TTI before rate matching		384
	RM attribute		200-240

7.2.6.1.2 Transport channel parameters of SRB for Interactive/Background 32 kbps PS RAB

See subclause 6.10.2.4.3.2.1.1 of [1].

7.2.6.1.3 Transport channel parameter of SRB for PCCH

See subclause 6.10.2.4.3.1.1.1 of [1].

7.2.6.1.4 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See subclause 6.10.2.4.3.2.1.2 of [1].

7.2.6.1.5 TFCS

TFCS size	14
TFCS	(SRB for PCCH, SRBs for CCCH/DCCH/BCCH, 32kbps RAB, RB for CTCH) = (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), (TF1, 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), (TF0, TF2, TF0, TF1), (TF0, TF0, TF1, TF1)

7.2.6.2 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	1080

7.2.7 Interactive/Background 16 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

7.2.7.1 Transport channel parameters

7.2.7.1.1 Transport channel parameters for Interactive/Background 16 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		16000
	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		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI before rate matching		1140
	RM attribute		110-150

7.2.7.1.2 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		15200	13600 or 12000	12800	12800	12800	16600
	AMD/UMD/TrD PDU header, bit		8	8	16	16	16	0
MAC	MAC header, bit		8	24 or 40	24	24	24	2
	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					
	TTI, ms		20					
	Coding type		CC 1/2					
	CRC, bit		16					
	Max number of bits/TTI before rate matching		752					
	RM attribute		200-240					

NOTE: MAC header size and PLC payload size depend on use of U-RNTI or C-RNTI.

7.2.7.1.3 TFCS

TFCS size	4
TFCS	(SRBs for CCCH/DCCH/BCCH, 16 kbps RAB) = (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1)

7.2.7.2 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

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

7.2.8 8 kbps RB for CTCH + SRB for CCCH + SRB for BCCH

7.2.8.1 Transport channel parameters

7.2.8.1.1 Transport channel parameters of 8 kbps 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		7600
	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, bts	0x168
		TF1, bits	1x168
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		576
	RM attribute		200-240

7.2.8.1.2 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		7600	8300
	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		20	
	Coding type		CC 1/3	
	CRC, bit		16	
	Max number of bits/TTI before rate matching		576	
	RM attribute		200-240	

7.2.8.1.3 TFCS

TFCS size	3
TFCS	(SRBs for CCCH/ BCCH, RB for CTCH) = (TF0, TF0), (TF1, TF0), (TF0, TF1)

7.2.8.2 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

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

7.2.9 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

7.2.9.1 Transport channel parameters

7.2.9.1.1 Transport channel parameters for Interactive or background / 32 kbps / PS RAB + 32 kbps / PS RAB (RLC size 320)

See subclause 6.10.2.4.3.2a.1.1 of [1]

7.2.9.1.2 Transport channel parameters for Interactive or background / 32 kbps / PS RAB + 32 kbps / PS RAB (RLC size 640)

Higher Layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		640	640
	Max data rate, bps		32000	32000
	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		680	
	TFS	TF0, bits	0x680	
		TF1, bits	1x680	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		2100	
	RM attribute		110- 150	

7.2.9.1.3 Transport channel parameters of SRB for PCCH

See subclause 6.10.2.4.3.1.1 of [1]

7.2.9.1.4 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See subclause 6.10.2.4.3.2.1.2 of [1]

7.2.9.1.5 TFCS

TFCS size	7, 8, 9 or 10 for 240 bits PCH TrBlk size and TF3 not used (alt 7, 8, 9 or 10, 11 or 12 for 80 bits PCH TrBlk size and TF3 not used) (alt 7, 8, 9, 10 or 11 for 240 bits PCH TrBlk size and TF3 used) (alt. 7, 8, 9, 10, 11, 12, 13 or 14 for 80 bits PCH TrBlk size and TF3 used)
TFCS	(SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH, 32 kbps RAB (RLC size 320), 32 kbps RAB (RLC size 640)) = (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF0, TF1, TF0, TF1] (see note) for 240 bits PCH TrBlk size and TF3 not used (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF1, TF0, TF1, TF0] (see note), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF1, TF0, TF0, TF1] (see note), [TF0, TF1, TF0, TF1] (see note) for 80 bits PCH TrBlk size and TF3 not used) (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), [TF0, TF3, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0 TF1, [TF0, TF1, TF0, TF1] (see note) for 240 bits PCH TrBlk size and TF3 used) (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), [TF0, TF3, TF0, TF0] (see note), [TF1, TF3, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF1, TF0, TF1, TF0] (see note), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF1, TF0, TF0, TF1] (see note), [TF0, TF1, TF0, 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).	

7.2.9.2 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	1080

The minimum UE class supporting this combination is DL: 32 kbps plus support for 5 AM entities.

7.3 Combinations on PRACH

7.3.1 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.1 of [1].

The minimum UE class supporting this combination is UL: 12 kbps.

This is supported in Release '99.

7.3.2 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.2 of [1].

The minimum UE class supporting this combination is UL: 12 kbps plus support for 5 AM entities and in addition for the alternative configuration 'Maximum number of DPDCH bits transmitted per 10 ms' = 1200.

This is supported in Release '99.

7.4 Combinations on DPCH and HS-PDSCH

7.4.1 Conversational / unknown / UL:42.8 kbps DL:[max bit rate depending on UE category] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

This is supported in Release 5.

7.4.1.1 Uplink

See subclause 6.10.2.4.1.60.1 of [1]

7.4.1.2 Downlink

7.4.1.2.1 Transport channel parameters

7.4.1.2.1.1 Transport channel parameters for HS-DSCH

7.4.1.2.1.1.1 MAC-d flow parameters for conversational / unknown DL:[max bit rate depending on UE category] / PS RAB

Higher Layer	RAB/Signalling RB	**RAB**
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	920, 304, 96
	Max data rate, bps	depends on UE category NOTE1
	UMD PDU header, bit	8
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	928, 312, 104
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	2 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]).

7.4.1.2.1.1.2 MAC-d flow parameters for interactive or background DL:[max bit rate depending on UE category] / PS RAB

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.1.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.1.2.1.3 TFCS

See subclause 6.10.2.4.1.2.2.1.2 of [1].

7.4.1.2.2 Physical channel parameters

7.4.1.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.2.2.2 in [1].

7.4.1.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.2.2.2 in [1].

7.4.1b 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

7.4.1b.1 Uplink

See subclause 6.10.2.4.1.26.1 of [1].

7.4.1b.2 Downlink

7.4.1b.2.1 Transport channel parameters

7.4.1b.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.1b.2.1.2 Transport channel parameters for DCH

7.4.1b.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 of [1].

7.4.1b.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2 of [1].

7.4.1b.2.2 Physical channel parameters

7.4.1b.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2 of [1].

7.4.1b.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.2 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

7.4.2.1 Uplink

See subclause 6.10.2.4.1.34.1 of [1].

7.4.2.2 Downlink

7.4.2.2.1 Transport channel parameters

7.4.2.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.2.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.2.2.1.2.2 TFCS

See subclause 6.10.2.4.1.2.2.1.2 of [1].

7.4.2.2.2 Physical channel parameters

7.4.2.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.2.2.2 of [1].

7.4.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.3 Void

7.4.4 Void

7.4.5 Void

7.4.6 Interactive or background / UL:128 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

7.4.6.1 Uplink

See subclause 6.10.2.4.1.28.1 of [1].

7.4.6.2 Downlink

7.4.6.2.1 Transport channel parameters

7.4.6.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.6.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.6.2.1.2.2 TFCS

See subclause 6.10.2.4.1.2.2.1.2 of [1].

7.4.6.2.2 Physical channel parameters

7.4.6.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.2.2.2 of [1].

7.4.6.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.7 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:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

7.4.7.1 Uplink

See subclause 6.10.2.4.1.38i.1 of [1].

7.4.7.2 Downlink

7.4.7.2.1 Transport channel parameters

7.4.7.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.7.2.1.2 Transport channel parameters for DCH

7.4.7.2.1.2.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4a.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.7.2.1.2.3 TFCS

See subclause 6.10.2.4.1.4a.2.1.3 of [1].

7.4.7.2.2 Physical channel parameters

7.4.7.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.4a.2.2 of [1].

7.4.7.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.8 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:128 DL: [Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

7.4.8.1 Uplink

7.4.8.1.1 Transport channel parameters

7.4.8.1.1.1 Transport channel parameter for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB on DCH

See subclause 6.10.2.4.1.4a.1.1.1 of [1].

7.4.8.1.1.2 Transport channel parameter for Interactive or background / UL:128 on DCH

See subclause 6.10.2.4.1.28.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.4.8.1.1.4 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)

7.4.8.1.2 Physical channel parameters

DPCH Uplink	Min spreading factor	8
	Max number of DPDCH data bits/radio frame	4800
	Puncturing Limit	0.92

7.4.8.2 Downlink

7.4.8.2.1 Transport channel parameters

7.4.8.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.8.2.1.2 Transport channel parameters for DCH

7.4.8.2.1.2.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4a.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.8.2.1.2.3 TFCS

See subclause 6.10.2.4.1.4a.2.1.3 of [1].

7.4.8.2.2 Physical channel parameters

7.4.8.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.4a.2.2 of [1].

7.4.8.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16 and 'Maximum number of TFC' = 64, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.9 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

7.4.9.1 Uplink

See subclause 6.10.2.4.1.40.1 of [1].

7.4.9.2 Downlink

7.4.9.2.1 Transport channel parameters

7.4.9.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.9.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.9.2.1.2.3 TFCS

See subclause 6.10.2.4.1.4.2.1.3 of [1].

7.4.9.2.2 Physical channel parameters

7.4.9.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.4.2.2 of [1].

7.4.9.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.10 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL: [Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

7.4.10.1 Uplink

See subclause 6.10.2.4.1.44.1 of [1].

7.4.10.2 Downlink

7.4.10.2.1 Transport channel parameters

7.4.10.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.10.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.10.2.1.2.3 TFCS

See subclause 6.10.2.4.1.4.2.1.3 of [1].

7.4.10.2.2 Physical channel parameters

7.4.10.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.4.2.2 of [1].

7.4.10.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.11 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

7.4.11.1 Uplink

See subclause 6.10.2.4.1.52.1 of [1].

7.4.11.2 Downlink

7.4.11.2.1 Transport channel parameters

7.4.11.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.11.2.1.2 Transport channel parameters for DCH

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.11.2.1.2.3 TFCS

See subclause 6.10.2.4.1.13.2.1.3 of [1].

7.4.11.2.2 Physical channel parameters

7.4.11.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.13.2.2 of [1].

7.4.11.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps, DL on DPCH: 64 kbps, DL on HS-PDSCH: category 11. The minimum UE class to support the alternative UL combination (40ms TTI) is UL: 384kbps.

This is supported in Release 5.

7.4.12 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

7.4.12.1 Uplink

See subclause 6.10.2.4.1.53.1 of [1].

7.4.12.2 Downlink

7.4.12.2.1 Transport channel parameters

7.4.12.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.12.2.1.2 Transport channel parameters for DCH

7.4.12.2.1.2.1 Transport channel parameters for Conversational / speech / DL: 64 kbps / CS RAB

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.12.2.1.2.3 TFCS

See subclause 6.10.2.4.1.13.2.1.3 of [1].

7.4.12.2.2 Physical channel parameters

7.4.12.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.13.2.2 of [1].

7.4.12.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

The minimum UE classes supporting this combination are UL: 384kbps, DL on DPCH: 64 kbps, DL on HS-PDSCH: category 11.

This is supported in Release 5.

8 Examples of Radio Bearers and Signalling Radio Bearers for 3.84 Mcps TDD

NOTE: The physical channel parameters were chosen for each RAB because they are typical for the targeted UE class to support the particular RAB. However based on current radio conditions UEs shall expect to be configured to use any timeslot/code/spreading factors combinations that support the RAB and are supported by that UE"s physical capabilities.

8.1 Combinations on DPCH

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

See subclause 6.10.3.4.1.1 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.3 Stand-aloneUL:13.6 DL:13.6 kbps SRBs for DCCH

See subclause 6.10.3.4.1.3 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.4 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.5 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.6 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.7 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.8 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS rab + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.9 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.10 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.11 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

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

Void.

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

Void

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

See subclause 6.10.3.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 32kbps ; DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI

This is supported in Release '99.

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

Void.

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

See subclause 6.10.3.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 32kbps ; DL: 64kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64kbps . The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 128kbps plus support for 32 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum 16 TBs per TTI; DL: 128kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 128kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 384kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL 768 kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL 768 kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps. The minimum UE class to support the alternative DL configuration is 2048kbps plus support for maximum TB bits 81920 and maximum TC TB bits 81920. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

Void.

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

Void.

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

See subclause 6.10.3.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps ; DL: 64kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release '99.

8.1.39 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

See subclause 6.10.3.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

8.1.40 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

See subclause 6.10.3.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps plus. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 384kbps plus support for 2 physical channels per TS; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920.

This is supported in Release '99.

8.1.42 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

See subclause 6.10.3.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release '99.

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

Void.

8.1.44 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

See subclause 6.10.3.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64kbps

This is supported in Release '99.

8.1.45 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

See subclause 6.10.3.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release '99

8.1.46 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

See subclause 6.10.3.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

8.1.47 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

See subclause 6.10.3.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps ; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

8.1.48 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

See subclause 6.10.3.4.1.53 of [1].

The minimum UE classes for this combination are UL: 384kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 384kbps plus support for 32 TB/TTI.

This is supported in Release '99.

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

Void.

8.1.50 Conversational / Speech UL:(12.2-7.95-5.9-4.75) & DL:(12.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.4a of [1].

The minimum UE classes for this combination are UL: 32 kbps; DL: 32 kbps.

This is supported in Release '99.

8.1.51 Conversational / Speech UL:(10.2-6.7-5.9-4.75) & DL:(10.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.5a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.52 Conversational / Speech UL:(7.4-6.7-5.9-4.75) & DL:(7.4-6.7-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.7a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.53 Interactive or Background UL:8 & DL:8kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

8.1.54 Interactive or Background UL:16 & DL:16kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23b of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

8.1.55 Interactive or Background UL:32 & DL:32kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23c of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

8.1.56 Interactive or Background UL:32 & DL:32kbps PS RAB (20msTTI) + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23d of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

8.1.57 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

See subclause 6.10.3.4.1.38a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps.

This is supported in Release '99.

8.1.58 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:8 & DL:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps.

This is supported in Release '99.

8.1.59 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:32 & DL:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

8.1.60 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38d of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities, DL: 64 kbps plus support for 5 AM mode entities. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and support for 5 AM mode entities.

This is supported in Release '99.

8.1.61 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:0kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38e of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps.

This is supported in Release '99.

8.1.62 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:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps.

This is supported in Release '99.

8.1.63 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:16kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38g of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

8.1.64 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:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38h of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps..

This is supported in Release '99.

8.1.65 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:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38i of [1].

The minimum UE classes supporting this combination are UL: 64 kbps + 48 Configured TFCs, DL: 64 kbps + 64 Configured TFCs. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and 48 Configured TFCs.

This is supported in Release '99.

8.1.66 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:128kbps PS RAB + UL3.4 & DL:3.4kbps SRB"s for DCCH

See subclause 6.10.3.4.1.38j of [1].

The minimum UE classes supporting this combination are UL: 64 kbps + 48 Configured TFCs, DL: 128 kbps.. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and 48 Configured TFCs.

This is supported in Release '99.

8.1.67 Conversational / speech / UL:(12.2 7.95 5.9 4.75) kbps 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.

See subclause 6.10.3.4.1.49a of [1].

The minimum UE classes supporting this combination are UL:64 kbps; DL:64 kbps.

This is supported in Release '99.

8.1.68 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.

See subclause 6.10.3.4.1.51a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

8.1.69 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.

See subclause 6.10.3.4.1.51b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

8.1.70 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.

See subclause 6.10.3.4.1.56 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps plus support for 5 AM entities, DL: 32 kbps.plus support for 5 AM entities. The minimum UE class to support the alternative UL configuration is UL: 32 kbps plus support for 5 AM mode entities and 8 TB per TTI.

This is supported in Release '99.

8.1.71 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.

See subclause 6.10.3.4.1.57 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities. The minimum UE class to support the alternative UL configuration is UL: 64 kbps plus support for 5 AM mode entities and 16 TB per TTI.

This is supported in Release '99.

8.1.72 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.

See subclause 6.10.3.4.1.58 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities.

This is supported in Release '99.

8.1.72a 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 – Alternative

This configuration optimises the flexibility of the Transport Format Selection by adding an omitted Transport Format, to the transport channel parameters given in the reference subclause 6.10.3.4.1.58 of [1], for the downlink,transport channel Streaming / unknown / DL:64 kbps PS RAB.

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities.

This is supported in Release "99.

8.1.72a.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1]

8.1.72a.2 Downlink

8.1.72a.2.1 Transport channel parameters

8.1.72a.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		64000
	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	3x656
		TF4, bits	4x656
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Max number of bits/radio frame before rate matching		2019
	RM attribute		125-165

8.1.72a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.2 of [1]

8.1.72a.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 of [1]

8.1.72a.2.1.4 TFCS

TFCS size	20
TFCS	(64 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),

8.1.72a.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	1640 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

8.1.73 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

See subclause 6.10.3.4.1.61 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32 kbps.

This is supported in Release '99.

8.1.74 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (Multiframe)

See subclause 6.10.3.4.1.1a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.75 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

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 128kbps.

This is supported in Release '99.

8.1.75.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1]

8.1.75.2 Downlink

8.1.75.2.1 Transport channel parameters

8.1.75.2.1.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

Higher Layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		640
	Max data rate, bps		128000
	UM 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	3x656
		TF4, bits	4x656
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Max number of bits/radio frame before rate matching		4038
	RM attribute		125-165

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

See subclause 6.10.3.4.1.23.2.1.1 of [1].

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.75.2.1.4 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),

8.1.75.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 5 codes x 2 time slot
	Max. Number of data bits/radio frame	2744 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

8.1.76 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

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains zero Transport Blocks.

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.76.1 Uplink

8.1.76.1.1 Transport channel parameters

8.1.76.1.1.1 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		8000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.76.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(8 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) (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))

8.1.76.1.2 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)

8.1.76.2 Downlink

8.1.76.2.1 Transport channel parameters

8.1.76.2.1.1 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		8000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

8.1.76.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.2 of [1].

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.76.2.1.4 TFCS

TFCS size	8
TFCS	(8 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)

8.1.76.2.2 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	0.96

8.1.77 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

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.77.1 Uplink

8.1.77.1.1 Transport channel parameters

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

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

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

See subclause 6.10.3.4.1.23a.1.1.2 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.77.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(8 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) (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))

8.1.77.1.2 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)

8.1.77.2 Downlink

8.1.77.2.1 Transport channel parameters

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

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		8000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1044
	Max number of bits/radio frame before rate matching		261
	RM attribute		135-175

8.1.77.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.2 of [1].

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.77.2.1.4 TFCS

TFCS size	8
TFCS	(8 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)

8.1.77.2.2 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	0.72

8.1.78 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.78.1 Uplink

8.1.78.1.1 Transport channel parameters

8.1.78.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 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		16000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.78.1.1.4 TFCS

TFCS size	12 (alt 18)
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, 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),(TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF2, TF1))

8.1.78.1.2 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	0.96 (alt. 0.92)

8.1.78.2 Downlink

8.1.78.2.1 Transport channel parameters

8.1.78.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 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		16000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		328
	TFS	TF0, bits	0x328
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

8.1.78.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1. 23.2.1.1 of [1]

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.78.2.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

8.1.78.2.2 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	0.72

8.1.79 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.79.1 Uplink

8.1.79.1.1 Transport channel parameters

8.1.79.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		16000
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.79.1.1.4 TFCS

TFCS size	12 (alt 18)
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, 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, TF1, TF1),(TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF1, TF1))

8.1.79.1.2 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	904bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.96 (alt. 0.92)

8.1.79.2 Downlink

8.1.79.2.1 Transport channel parameters

8.1.79.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		320
	Max data rate, bps		16000
	AMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		0, 328
	TFS	TF0, bits	1x0
		TF1, bits	1x328
		TF2, bits	2x328
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2076
	Max number of bits/radio frame before rate matching		519
	RM attribute		135-175

8.1.79.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.1 of [1]

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.79.2.1.4 TFCS

TFCS size	12
TFCS	(16 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

8.1.79.2.2 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	0.72

8.1.80 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 32kbps plus support for 5 AM mode entities, DL: 32kbps plus support for 5 AM mode entities.

This is supported in Release '99.

8.1.80.1 Uplink

8.1.80.1.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.1.1.1 of [1].

8.1.80.1.1.2 Transport channel parameters for Interactive or Background / UL:0 + UL:0 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	0	0
	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	
	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	130-170	

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

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.80.1.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+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)

8.1.80.1.2 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

8.1.80.2 Downlink

8.1.80.2.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.2.1.1 of [1].

8.1.80.2.1.2 Transport channel parameters for Interactive or Background / DL:0 + DL:0 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		0	0
	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	
	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		130-170	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.80.2.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+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)

8.1.80.2.2 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

8.1.81 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + 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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64 kbps.

This is supported in Release '99.

8.1.81.1 Uplink

8.1.81.1.1 Transport channel parameters

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

See subclause 6.10.3.4.1.13.1.1.1 of [1].

8.1.81.1.1.2 Transport channel parameters for Interactive or Background / UL:8 + UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.56.1.1.1 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.81.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(64 kbps Conversational RAB, 8+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))

8.1.81.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	SF4 x 1 code x 1 time slot SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1584 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.60(alt. 0.56)

8.1.81.2 Downlink

8.1.81.2.1 Transport channel parameters

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

See subclause 6.10.3.4.1.13.2.1.1 of [1].

8.1.81.2.1.2 Transport channel parameters for Interactive or Background / DL:8 + DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.56.2.1.1 of [1]

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.81.2.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8+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)

8.1.81.2.2 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	1640 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

8.1.82 Streaming / unknown / UL:8 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

8.1.82.1 Uplink

8.1.82.1.1 Transport channel parameters

8.1.82.1.1.1 Transport channel parameters for Streaming / unknown / 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		8000
	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		1068
	Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.3.4.2.23a.1.1.2 of [1]

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

See subclause 6.10.3.4.2.2.1.1.1 of [1]

8.1.82.1.1.4 TFCS

TFCS size	8 (alt 12)
TFCS	(8 kbps Streaming 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))

8.1.82.1.2 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	0.64

8.1.82.2 Downlink

8.1.82.2.1 Transport channel parameters

8.1.82.2.1.1 Transport channel parameters for Streaming / unknown / DL:16 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		16000
	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
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2028
	Max number of bits/radio frame before rate matching		507
	RM attribute		125-165

8.1.82.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23.2.1.2 of [1]

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

See subclause 6.10.3.4.2.2.2.1.1 of [1]

8.1.82.2.1.4 TFCS

TFCS size	8
TFCS	(16 kbps Streaming 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)

8.1.82.2.2 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	0.48

8.1.83 Streaming / unknown / UL:8 DL:32 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

8.1.83.1 Uplink

8.1.83.1.1 Transport channel parameters

8.1.83.1.1.1 Transport channel parameters for Streaming / unknown / 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		8000
	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		1068
	Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.3.4.2.23a.1.1.2 of [1]

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

See subclause 6.10.3.4.2.2.1.1.1 of [1]

8.1.83.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(8 kbps Streaming 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))

8.1.83.1.2 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	0.64

8.1.83.2 Downlink

8.1.83.2.1 Transport channel parameters

8.1.83.2.1.1 Transport channel parameters for Streaming / unknown / DL: 32 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		32000
	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
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4044
	Max number of bits/radio frame before rate matching		1011
	RM attribute		125-165

8.1.83.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23.2.1.2 of [1]

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

See subclause 6.10.3.4.2.2.2.1.1 of [1]

8.1.83.2.1.4 TFCS

TFCS size	12
TFCS	(32 kbps Streaming 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

8.1.83.2.2 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	1204 bits
	TFCI code word	16 bits
	Puncturing limit	0.80

8.1.84 Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

8.1.84.1 Uplink

8.1.84.1.1 Transport channel parameters

8.1.84.1.1.1 Transport channel parameters for Streaming / unknown / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	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		2124
	Max number of bits/radio frame before rate matching		1062
	RM attribute		135-175

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.84.1.1.4 TFCS

TFCS size	12 (alt 18)
TFCS	(32 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, 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), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF2, TF1))

8.1.84.1.2 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	0.60

8.1.84.2 Downlink

8.1.84.2.1 Transport channel parameters

8.1.84.2.1.1 Transport channel parameters for Streaming / unknown / DL:256 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		256000
	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	3x656
		TF4, bits	4x656
	TTI, ms		10
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Max number of bits/radio frame before rate matching		8076
	RM attribute		125-165

8.1.84.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1. 23.2.1.2 of [1]

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.84.2.1.4 TFCS

TFCS size	20
TFCS	(256 kbps Streaming RAB, 8 kbps I/B 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),

8.1.84.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 5 codes x 4 time slots
	Max. Number of data bits/radio frame	5504 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

8.1.85 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

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.85.1 Uplink

8.1.85.1.1 Transport channel parameters

8.1.85.1.1.1 Transport channel parameters for Interactive or Background / UL:16 + 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 (alt 128)	320 (alt 128)
	Max data rate, bps		16000	16000
	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 (alt 0x148)	
		TF1, bits	1x340 (alt 1x148)	
		TF2, bits	2x340 (alt 5x148)	
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		2148 (alt 2472)	
	Max number of bits/radio frame before rate matching		537 (alt 618)	
	RM attribute		135-175	

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

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.85.1.1.3 TFCS

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

8.1.85.1.2 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	0.64 (alt. 0.60)

8.1.85.2 Downlink

8.1.85.2.1 Transport channel parameters

8.1.85.2.1.1 Transport channel parameters for Interactive or background / DL:16 + 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		16000	16000
	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		2148	
	Max number of bits/radio frame before rate matching		537	
	RM attribute		135-175	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.85.2.1.3 TFCS

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

8.1.85.2.2 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

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

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 32 kbps.plus support for 5 AM entities.

This is supported in Release '99.

8.1.86.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1]

8.1.86.2 Downlink

See subclause 6.10.3.4.1.56.2 of [1]

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

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 128kbps.

This is supported in Release '99.

8.1.87.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1].

8.1.87.2 Downlink

8.1.87.2.1 Transport channel parameters

8.1.87.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 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		128000	128000
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	Max number of bits/radio frame before rate matching		4278	
	RM attribute		120-160	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.87.2.1.3 TFCS

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

8.1.87.2.2 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	0.52

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

8.1.88.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1].

8.1.88.2 Downlink

8.1.88.2.1 Transport channel parameters

8.1.88.2.1.1 Transport channel parameters for Interactive or background / DL:384 + DL: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		384000	384000
	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		12828	
	Max number of bits/radio frame before rate matching		12828	
	RM attribute		110-150	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.88.2.1.3 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)

8.1.88.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 9 codes x 3 time slots
	Max. Number of data bits/radio frame	7436 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

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

The minimum UE classes supporting this combination are UL: 128kbps, DL: 128kbps. The minimum UE class to support the alternative UL configuration (128-bit payload size) is UL: 128kbps plus support for "Maximum total number of transport blocks transmitted within TTIs that start at the same time" = 32.

This is supported in Release '99.

8.1.89.1 Uplink

8.1.89.1.1 Transport channel parameters

8.1.89.1.1.1 Transport channel parameters for Interactive or Background / UL:128 + UL:128 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		128000	128000
	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. 7x148)	
		TF3, bits	4x340 (alt. 14x148)	
		TF4, bits	8x340 (alt. 20x148)	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556 (alt. 9852)	
	Max number of bits/radio frame before rate matching		4278 (alt. 4926)	
	RM attribute		120-160	

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

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.89.1.1.3 TFCS

TFCS size	9 (alt. 10)
TFCS	(128 kbps RAB + 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))

8.1.89.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 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	3168 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.68(alt. 0.60)

8.1.89.2 Downlink

8.1.89.2.1 Transport channel parameters

8.1.89.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 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		128000	128000
	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	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	Max number of bits/radio frame before rate matching		4278	
	RM attribute		120-160	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.89.2.1.3 TFCS

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

8.1.89.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 5 codes x 2 time slots
	Max. Number of data bits/radio frame	2744 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

8.1.90 Interactive or background / UL:128 DL:32 kbps / PS RAB + Interactive or Background / UL:128 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration (128-bit payload size) is UL: 128kbps plus support for "Maximum total number of transport blocks transmitted within TTIs that start at the same time" = 32.

This is supported in Release '99.

8.1.90.1 Uplink

See subclause 8.1.89.1 of [1].

8.1.90.2 Downlink

8.1.90.2.1 Transport channel parameters

8.1.90.2.1.1 Transport channel parameters for Interactive or background / DL:32 + DL: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		32000	32000
	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		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		4284	
	Max number of bits/radio frame before rate matching		1071	
	RM attribute		135-175	

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.90.2.1.3 TFCS

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

8.1.90.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	812 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

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

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 64 kbps.

This is supported in Release "99.

8.1.91.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1].

8.1.91.2 Downlink

See subclause 8.1.82.2 of [1].

8.1.92 Streaming / unknown / UL:16 DL:32 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 64 kbps.

This is supported in Release "99.

8.1.92.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1].

8.1.92.2 Downlink

See subclause 8.1.83.2 of [1].

8.1.93 Interactive or background / UL:16 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release "99.

8.1.93.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.93.2 Downlink

See subclause 6.10.3.4.1.23c.2 of [1].

8.1.94 Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release "99.

8.1.94.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.94.2 Downlink

See subclause 6.10.3.4.1.25.2 of [1].

8.1.95 Interactive or background / UL:16 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release "99.

8.1.95.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.95.2 Downlink

See subclause 6.10.3.4.1.27.2 of [1].

8.1.96 Conversational / speech / UL:12.2 DL:12.2 kbps + 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

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 16 TB/TTI, DL: 128 kbps.

This is supported in release "99.

8.1.96.1 Uplink

8.1.96.1.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.1.1.1 of [1].

8.1.96.1.1.2 Transport channel parameters for Streaming / unknown / UL:16 kbps

See subclause 6.10.3.4.1.58.1.1.1 of [1].

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1].

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

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.96.1.1.5 TFCS

TFCS size	24 (alt. 36)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 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,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) (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,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,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), (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))

8.1.96.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 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	1308 bits (alt. 1244 bits)
	TFCI code word	16 bits (alt. 32 bits)
	TPC	2 bits
	Puncturing Limit	0.88 (alt. 0.84))

8.1.96.2 Downlink

8.1.96.2.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.2.1.1 of [1]

8.1.96.2.1.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

See subclause 8.1.75.2.1.1 of [1].

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

See subclause 6.10.3.4.1.23.2.1.1 of [1].

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.96.2.1.5 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 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,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)

8.1.96.2.2 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	3280 bits
	TFCI code word	32 bits
	Puncturing limit	0,64

8.1.97 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 16 TB/TTI, DL: 64 kbps.

This is supported in release '99.

8.1.97.1 Uplink

8.1.97.1.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.1.1.1 of [1]

8.1.97.1.1.2 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
	Max number of bits/radio frame before rate matching		4038
	RM attribute		125-165

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

See subclause 6.10.3.4.1.23a.1.1.1 of [1].

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

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.97.1.1.5 TFCS

TFCS size	48 (alt. 72)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 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,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) (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,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,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,TF3,TF2,TF0), (TF1,TF0,TF0,TF3,TF2,TF0), (TF2,TF1,TF1,TF3,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,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))

8.1.97.1.2 Physical channel parameters

DPCH Uplink	Midamble	256 chips
	Codes and time slots	{SF2 x 1 code x 1 timeslot} + {SF4 x 1 code x 1 timeslot}
	Max. Number of data bits/radio frame	3040 bits
	TFCI code word	32 bits
	TPC	2
	Puncturing limit	0.60

8.1.97.2 Downlink

8.1.97.2.1 Transport channel parameters

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

See subclause 6.10.3.4.1.4.2.1.1 of [1].

8.1.97.2.1.2 Transport channel parameters for Streaming / unknown / DL:16 kbps / PS RAB

See subclause 8.1.82.2.1.1 of [1].

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

See subclause 6.10.3.4.1.23.2.1.1 of [1].

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

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.97.2.1.5 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 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,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)

8.1.97.2.2 Physical channel parameters

DPCH Downlink	Midamble	256 chips
	Codes and time slots	SF16 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	812 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

8.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

8.2.1 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps , DL: 384kbps.

This is supported in Release '99.

8.2.2 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps.

This is supported in Release '99.

8.2.3 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 2048kbps The minimum UE class to support the alternative DL configuration is DL: 2048kbps plus support maximum TB bits 81920, and TB TC bits 81920.

This is supported in Release '99.

8.2.4 Interactive or background / UL: 384 DL: 2048 kbps / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.4 of [1].

The minimum UE classes supporting this combination are UL: 384kbps plus support of SF1, DL: 2048kbps. The minimum UE class to support the alternative DL configuration is DL: 2048kbps plus support maximum TB bits 81920, and TB TC bits 81920. The minimum UE class to support the alternative UL configuration is UL: 384kbps plus support for 64 TB/TTI and support of SF1.

This is supported in Release '99.

8.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

8.3.1 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

See subclause 6.10.3.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kps.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

8.3.2 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

See subclause 6.10.3.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kps.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

8.3.3 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:2048 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.10.3.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps plus support for maximum TB bits 81920, maximum TC TB bits 81920.

This is supported in Release '99.

8.4 Combinations on SCCPCH

8.4.1 Stand – alone signalling RB for PCCH

See subclause 6.10.3.4.4.1 of [1].

The minimum UE class supporting this combination is DL: 32 kbps. This is supported in Release '99

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

See subclause 6.10.3.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

8.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.4.2a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

8.4.5 SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.2b of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

8.4.6 SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.3a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

8.4.7 RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.10.3.4.4.4 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

8.5 Combinations on PRACH

8.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.1 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

8.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.2 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

8.5.3 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.3 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

9 Examples of Radio Bearers and Signalling Radio Bearers for 1.28 Mcps TDD

9.1 Combinations on DPCH

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

See subclause 6.11.5.4.1.1 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

9.1.1a Stand-alone UL: 1.7 DL: 1.7 kbps SRBs for DCCH (multiframe)

See subclause 6.11.5.4.11a of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

9.1.3 Stand-aloneUL: 13.6 DL: 13.6 kbps SRBs for DCCH

See subclause 6.11.5.4.1.3 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.4 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

9.1.4a Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2 kbps, 7.95, 5.9, 4.75) / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.4a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.5 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

9.1.5a 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

See subclause 6.11.5.4.1.5a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.6 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.7 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

9.1.7a 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

See subclause 6.11.5.4.1.7a of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.8 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

9.1.9 Conversational / speech / UL: 5.9 DL: 5.9 kbps / CS rab + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.9 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.10 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.11 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 32kbps.

This is supported in Release 4.

9.1.18 Void

Void

9.1.19 Void

Void

9.1.20 Void

Void.

9.1.21 Void

Void.

9.1.22 Void

Void.

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

See subclause 6.11.5.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.23a Interactive or background / UL: 8DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23a of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.23b Interactive or background / UL: 16 DL: 16 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23b of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.23c Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23c of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.23d Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH (20 ms TTI)

See subclause 6.11.5.4.1.23d of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.24 Void

Void.

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

See subclause 6.11.5.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 64 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps; DL: 384 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps; DL: 384kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps.

This is supported in Release 4.

9.1.36 Void

Void.

9.1.37 Void

Void.

9.1.38 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

See subclause 6.11.5.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32kbps.

This is supported in Release 4.

9.1.38a 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

See subclause 6.11.5.4.1.38a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32kbps

This is supported in Release 4.

9.1.38b 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

See subclause 6.11.5.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

9.1.38c 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

See subclause 6.11.5.4.1.38c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

9.1.38d 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

See subclause 6.11.5.4.1.38d of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

9.1.38e 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

See subclause 6.11.5.4.1.38e of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

9.1.38f 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

See subclause 6.11.5.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

9.1.38g 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

See subclause 6.11.5.4.1.38g of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

9.1.38h 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

See subclause 6.11.5.4.1.38h of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

9.1.38i 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

See subclause 6.11.5.4.1.38i of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

9.1.38j 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

See subclause 6.11.5.4.1.38j of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps

This is supported in Release 4.

9.1.39 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

See subclause 6.11.5.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64kbps.

This is supported in Release 4.

9.1.40 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

See subclause 6.11.5.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64 kbps.

This is supported in Release 4.

9.1.41 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

See subclause 6.11.5.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

9.1.42 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

See subclause 6.11.5.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps..

This is supported in Release 4.

9.1.43 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

See subclause 6.11.5.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps; DL: 2048 kbps.

This is supported in Release 4.

9.1.45 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

See subclause 6.11.5.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release 4.

9.1.46 Void

Void.

9.1.47 Void

Void.

9.1.48 Void

Void.

9.1.49 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

See subclause 6.11.5.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release 4.

9.1.49a 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

See subclause 6.11.5.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps ; DL: 64 kbps.

This is supported in Release 4.

9.1.50 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

See subclause 6.11.5.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

9.1.51 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

See subclause 6.11.5.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

9.1.51a 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

See subclause 6.11.5.4.1.51a of [1].

The minimum UE classes for this combinations are UL: 64 kbps ; DL: 64 kbps.

This is supported in Release 4.

9.1.51b 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

See subclause 6.11.5.4.1.51b of [1].

The minimum UE classes for this combinations are UL: 64 kbps ; DL: 128 kbps.

This is supported in Release 4.

9.1.52 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

See subclause 6.11.5.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps; DL: 384 kbps.

This is supported in Release 4.

9.1.53 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

See subclause 6.11.5.4.1.53 of [1].

The minimum UE classes for this combination are UL: 384 kbps; DL: 384 kbps.

This is supported in Release 4.

9.1.54 Void

Void.

9.1.55 Void

Void.

9.1.56 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

See subclause 6.11.5.4.1.56 of [1].

The minimum UE classes for this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 4.

9.1.57 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

See subclause 6.11.5.4.1.57 of [1].

The minimum UE classes for this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release 4.

9.1.58 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

See subclause 6.11.5.4.1.58 of [1].

The minimum UE classes for this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release 4.

9.1.59 Reserved for future use

9.1.60 Reserved for future use

9.1.61 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

See subclause 6.11.5.4.1.561 of [1].

The minimum UE classes for this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 4.

9.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

9.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbs; DL: 384kbs.

This is supported in Release 4.

9.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbs, DL: 384kbs.

This is supported in Release 4.

9.2.3 Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbs, DL: 2Mbps.

This is supported in Release 4.

9.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

9.3.1 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

See subclause 6.11.5.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps.

This is supported in Release 4.

9.3.2 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

See subclause 6.11.5.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps.

This is supported in Release 4.

9.3.3 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: 2048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.11.5.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 2048kbps.

This is supported in Release 4.

9.4 Combinations on SCCPCH

9.4.1 Stand – alone signalling RB for PCCH

See subclause 6.11.5.4.4.1 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 64 kbps.

This is supported in Release 4.

9.4.2a Interactive / Background 32 kbps PS RAB + Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.2a of [1].

The minimum UE class supporting this combination is DL: 64 kbps.

This is supported in Release 4.

9.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.2b of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

9.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 64 kbps..

This is supported in Release 4.

9.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.3a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

9.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.11.5.4.4.4 of [1].

The minimum UE class supporting this combination is DL: 64 kbps..

This is supported in Release 4.

9.5 Combinations on PRACH

9.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.11.5.4.5.1 of [1].

The minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release 4.

9.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH

See subclause 6.11.5.4.5.2 of [1].

The minimum UE class supporting this combination is UL: 32 kbps..

This is supported in Release 4.

9.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH

See subclause 6.11.5.4.5.3 of [1].

The minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release 4.

Annex A:
Service scenarios

This chapter presents a selection of service scenarios, which are used as a basis for the RAB scenarios. Only the basic scenarios having impact on the lower layers are considered. Because the real time applications have the tightest connection with the lower layers, the real time scenarios are studied more in detail in this document. Other scenarios can be derived as combinations of these basic scenarios.

Even though these scenarios are for IMS, they are applicable also for non-IMS PS scenarios. The differences between IMS and non-IMS are small in RAN level: Usually, the difference is that in non-IMS cases the IMS signalling stream is left out or replaced by non-IMS signalling stream. Other differences are indicated later in the text, whenever necessary.

Table A-1: Service scenarios

		IMS Signallingg	Speech (RTP)	Speech (RTCP)	Audio (RTP)	Audio (RTCP)	Video (RTP)	Video (RTCP)	Text (RTP)	Text (RTCP)	Data	Notes
1	Speech	X	X	X	-	-	-	-	-	-	O	
2	Audio	X	-	-	X	X	-	-	-	-	O	
3	Video	X	-	-	-	-	X	X	-	-	O	
4	Text	X	-	-	-	-	-	-	X	X	O	
5	Speech, Video	X	X	X	-	-	X	X	-	-	O	
6	Audio, Video	X	-	-	-	-	X	X	X	X	O	
7	Speech, Text	X	-	-	X	X	X	X	-	-	O	
8	Video, Text	X	X	X	-	-	-	-	X	X	O	
9	Speech, Video, Text	X	X	X	-	-	X	X	X	X	O	
10	Audio, Text	X	-	-	X	X	-	-	X	X	O	
11	Audio, Video, Text	X	-	-	X	X	X	X	X	X	O	

X = stream included in scenario

- = stream not included in scenario

O = stream optionally included in scenario

NOTE: In some 3GPP specifications (e.g., [10]) "audio" and "speech" are not separated, but handled under title "audio".

In most of the scenarios, the services can be either streaming or conversational. For PS streaming, there is no full IMS support in Release 5. However, this does not have major impact on the items presented in this document.

The protocol layers of the scenarios are presented in Figure A-1 for conversational and in Figure A-2 for streaming services ([10], [11]).

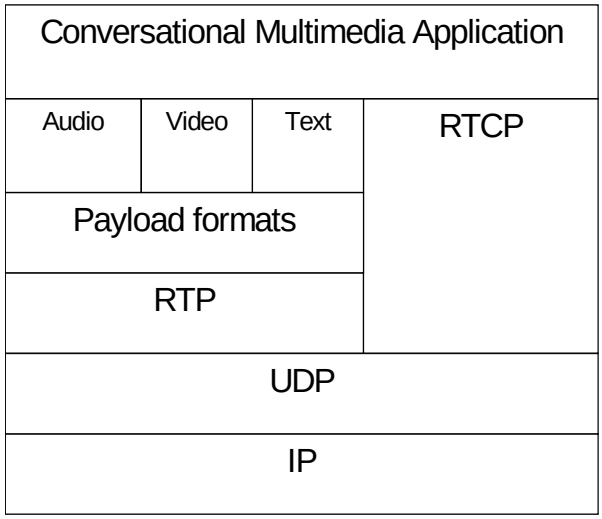

Figure A-1 – User plane protocol stack for conversational multimedia terminal

The protocol layers for IMS signalling stream, not presented in the figure, are (SDP/)SIP/UDP/IP.

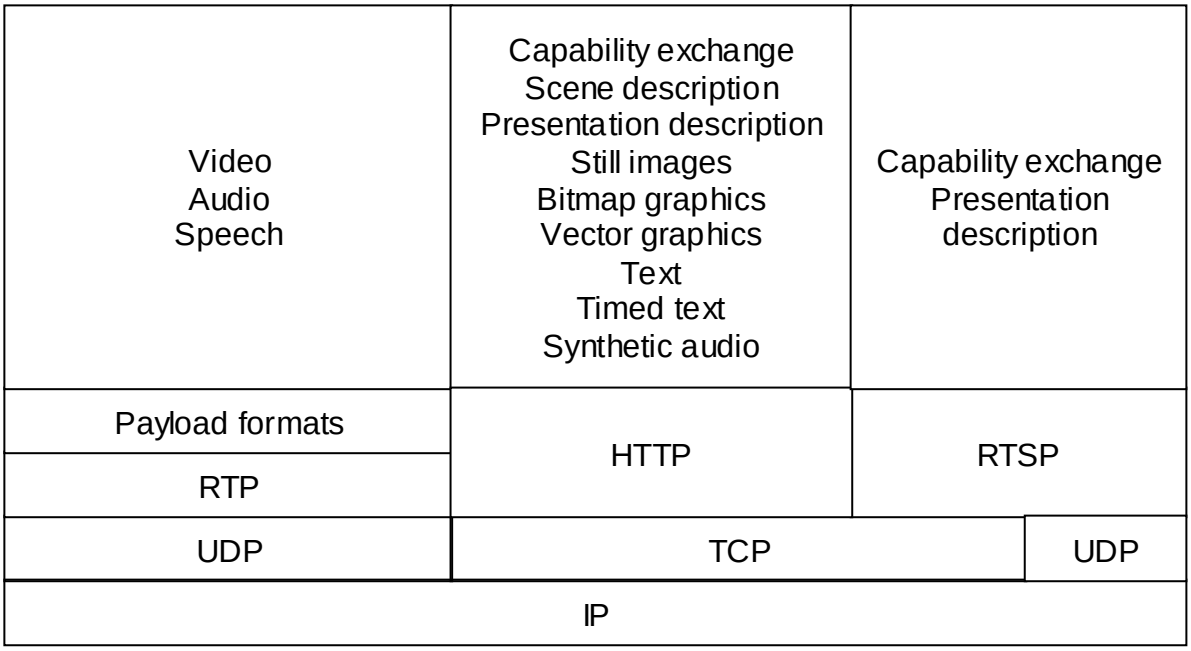

Figure A-2: Protocol stack for PS streaming terminal

A.1 Common characteristics of scenarios

The characteristics of the streams in the next sub-chapters are common to all or most of the scenarios.

In scenarios, where the IP protocol header size or contents are relevant, it is assumed that IPv6 header without extension headers is used, i.e., the IP header size is 40 bytes. The UDP header size is 8 bytes.

A.1.1 RTP and RTCP streams

A.1.2 Signalling stream

A.1.3 Data stream

The data stream may be used to carry any background or interactive data. Examples on data are still images, graphics, and scene / presentation descriptions, shown in Figure A-2 and [11], as well as web browsing and/or file download. Low delay is not guaranteed, and the data rates may vary between 0 kbps and the maximum bit rate of the context.

A.2 Scenarios

In each of the scenarios, there is also an additional PDP context for SIP or RTSP, and optionally one or more PDP contexts for data. Which PDP contexts are primary or secondary, is not relevant for RAB scenarios.

A.2.1 Speech

For the IMS speech service, the parameters that the transmitter should use (and the receiver shall at least support) are defined more precisely than for any other service in [10].

NOTE: Speech is defined under the term "audio" in [10].

Both AMR and AMR-WB are included. The parameters for speech are presented below, derived from [10] and [13]:

Table A.2.1-1: Conversational IMS speech service parameters

<table>
<tr><th colspan="2"></th><th colspan="2">Selection or parameter value</th><th>Notes</th></tr>
<tr><td rowspan="8"></td><td>Nr of AMR / AMR-WB frames in RTP packet</td><td colspan="2">One</td><td>Min. 20 ms packet interval

RTP header adds 12 bytes</td></tr>
<tr><td>AMR / AMR-WB payload mode</td><td colspan="2">Bandwidth efficient</td><td></td></tr>
<tr><td rowspan="4">AMR , lowest and highest modes</td><td>AMR / AMR-WB mode</td><td>Payload bytes per frame</td><td rowspan="5">Payload bits include ARM data, payload header, table of contents and padding.

Multi-channel session, interleaving or internal CRC not used.

Size of SID frame is 7 bytes.</td></tr>
<tr><td>4.75</td><td>14</td></tr>
<tr><td>12.2</td><td>32</td></tr>
<tr><td rowspan="2">AMR-WB, lowest and highest modes</td><td>6.6</td><td>18</td></tr>
<tr><td>23.85</td><td>61</td></tr>
</table>

For non-IMS services, the above-mentioned restrictions are not applicable. However, it can be assumed that the parameters for conversational VoIP services do not usually deviate significantly from those given above.

For speech streaming, the codecs are the same as above (AMR and AMR-WB) [11]. In [14], examples on streaming services are presented. The most important difference to the conversational parameters is that the number of speech frames in one RTP packet may be much larger (e.g., 10). On the other hand, the payload mode can be different (octet aligned), CRCs included etc. (as in [14]), which gives larger payload presented in table A.2.1-1.

A.2.2 Audio

"Audio" in this document refers to other than speech-based audio (music, combination of music and speech, etc…).

In [10] there is no distinction between audio and speech for conversational traffic. The default audio codecs for IMS are AMR and AMR-WB, hence the numbers in chapter A.2.1 are applicable.

According to [11], MPEG-4 AAC-LC codec should be supported for audio streaming, and in addition, also MPEG-4 AAC-LTP may be supported. As for the speech streaming, the RTP packets contain of several audio frames, as presented in [14].

A.2.3 Video

The video codecs have a wide range of possible bit rates and packet sizes. For streaming and conversational video, the codecs are H.263 and MPEG 4 (see [11] and [15]). RTP packet size is restricted in IMS conversational video to 512 bytes [10].

Examples on video streaming are presented in [14]. There is a wide range of RTP packet rates, depending on various factors, e.g., codec rate or packetization.

A.2.4 Text

According to [16], the data rate of T.140 text telephony over RTP is low: "The rate of character entry is usually at a level of a few characters per second or less. Therefore, the expected number of characters to transmit is low. Only one or a few new characters are expected to be transmitted with each packet". Hence, large part of the traffic consists of the overhead, i.e., RTP/UDP/IP headers and RTCP/UDP/IP packets. The data rate is mostly less than 1 kbps. Whenever the delay has to be guaranteed, the context cannot be of interactive or background traffic class, but e.g., streaming class has to be used.

It should be noted that text telephony does not include document viewing or other similar use, but only situations where the text is entered by human users in the both ends. For example, the "Text" service in Figure A-2 does not refer to text telephony.

A.2.5 Speech and video

There are basically two different alternatives, depending on whether audio and video streams are on the same or different PDP contexts. The former case is basically similar to the scenario in the chapter A.2.3. The latter latter case has different implications on lower layers. For streaming case with speech and video over the same context, there is an example in [14].

A.2.6 Audio and video

The difference in this scenario to the previous one is that the audio/speech coded may be different. On lower layers, this can be handled as the previous scenario.

A.2.7 Video, audio, or speech with text

The additional text telephony stream adds a low bit rate PDP context. Whenever there is a requirement to synchronize the text with the voice or video stream, the text telephony context delay parameters have to be aligned with those of the others (i.e., the delay requirement may be stricter than for stand-alone text telephony).

Annex B:
Mapping of service scenarios to Radio Access Bearers

B.1 Common requirements

The bearers in this document shall be based entirely on existing 25-series specifications. That is, no requirement on RABs that is not in line with existing RAN specifications, shall be presented.

In this chapter, the main principles for selecting the parameters are presented.

B.2 Bearer characteristics

The following table lists general characteristics of the bearers in the scenarios:

	Parameter	**Typical selection or parameter value**	**Notes**
PDCP	PDCP header, bits	8	8 bit PDCP header is the default in the scenarios. (For lossless SRNS relocation support, PDCP header can also contain sequence number of 16 bits.)
	Header compression	RFC 3095 (ROHC)	ROHC assumed to compress [RTP/]UDP/IP (and ESP/IP) traffic. No ROHC context identifier needed: PID field (5 bits) of PDCP header is sufficient to indicate all ROHC contexts in the given scenarios. The most common header (shortest 2nd order header) is 3 bytes when UDP checksum is present (with IPv6); see RLC payload sizes. ROHC feedback packets transmitted in opposite direction, interspersed with main flow packets. Segmentation of ROHC not in use, because only non-transparent RLC modes in these scenarios.
		RFC 2507	For TCP/IP compression (even though any IP headers, also those in UDP/IP could be compressed by RFC 2507). TCP/IP used in interactive and background, therefore no impact on RLC payload sizes
RLC			
	RLC mode	UM or AM	TM not possible because no a priori information on (compressed) IP packets, and no mechanism specified for negotiating ROHC packet sizes parameters. UM used for conversational traffic class, AM for all other classes.

	Payload sizes, bit		Number of different payload sizes to be limited so that max size of TFCS is reasonably low. In some scenarios, one of payload sizes is IP payload with shortest ROHC header. For AM, default payload size is 320 bits
	Max data rate, kbps		The actual data rate on IP layer is somewhat different from this nominal figure, due to: • PDCP header • Length indicator part of RLC header • Retransmissions (in AM) • Header compression
	UMD/AMD PDU header, bit	8 / 16	8 for UM, 16 for AM

Table B.2-1: Common characteristics of L2

In the scenarios, the RABs for data stream are not presented. Each of the scenarios may or may not have one or more RABs for data stream. The RABs can be selected from the interactive/background RABs.

B.3 RAB Scenarios

NOTE: The following RAB combinations are only examples of possible implementations of the scenarios.

Due to flexibility in RAN specifications (and in PDP context parameters) there is a large number of other possible RABs and their combinations that could implement the scenarios. There are also other RAB combinations applicable for other scenarios, not listed below.

This chapter concentrates on the basic scenarios of chapter A.2.1, thus excluding most of the combinations of multiple sessions.

Annex C:
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
09/2002	RP-17	RP-020663	-		Creation.	-	-
12/2002	RP-18	RP-020890	-		Merge of RP-020877 with RP-020814. Clause numbering changed. Approved at TSG RAN#18.	2.0.0	6.0.0
03/2003	RP-19	RP-030109	001		Streaming and interactive/background RAB combinations	6.0.0	6.1.0
	RP-19	RP-030109	002		QoS attributes for RABs in 25.993	6.0.0	6.1.0
	RP-19	RP-030109	003		TDD RABs in 25.993	6.0.0	6.1.0
06/2003	RP-20	RP-030288	004		Corrections to the UE capabilities and editorial changes	6.1.0	6.2.0
	RP-20	RP-030288	005		New configuration for CBS: CTCH, PCCH, 32kbps RAB and SRBs on 1 S-CCPCH	6.1.0	6.2.0
	RP-20	RP-030288	006		New SCCPCH Configurations	6.1.0	6.2.0
	RP-20	RP-030288	008		PS streaming and CS speech RAB combinations	6.1.0	6.2.0
	RP-20	RP-030288	009		RB configuration for the support of wideband AMR speech telephony services	6.1.0	6.2.0
	RP-20	RP-030288	010		Corrections on TDD RABs	6.1.0	6.2.0
09/2003	RP-21	RP-030497	012		IMS RAB scenarios	6.2.0	6.3.0
	RP-21	RP-030489	013		Addition of Streaming RABs	6.2.0	6.3.0
12/2003	RP-22	RP-030609	014		BTFD with Flexible TrCH position	6.3.0	6.4.0
	RP-22	RP-030609	015		Addition of Conversational – Interactive/Background RAB combination	6.3.0	6.4.0
03/2004	RP-23	RP-040100	019		Alignment with 34.108 for TDD	6.4.0	6.5.0
	RP-23	RP-040100	024		S-CCPCH combination for HS-DSCH channel type switching	6.4.0	6.5.0
	RP-23	RP-040109	025		DCH combination for HS-DSCH channel type switching	6.4.0	6.5.0
06/2004	RP-24	RP-040205	026		Corrections on required capabilities for 32kbps UE class and addition of the 12kbps class	6.5.0	6.6.0
	RP-24	RP-040205	027		Addition of RAB Parameters For RABs Removed From TS34.108 But Retained In TS25.993	6.5.0	6.6.0
09/2004	RP-25	RP-040325	028		Physical layer multiplexing configuration in case of AMR and two PS RABs with zero bit rates	6.6.0	6.7.0
	RP-25	RP-040325	029		Physical layer multiplexing configuration in case of two PS RABs	6.6.0	6.7.0
	RP-25	RP-040325	030		Correction of RAB configuration in 1.28Mcps TDD	6.6.0	6.7.0
	RP-25	RP-040325	032		Conversational PS RAB for HS-DSCH	6.6.0	6.7.0
12/2004	RP-26	RP-040483	031	3	Addition of HSDPA RABs	6.7.0	6.8.0
	RP-26	RP-040475	033		Addition RAB combinations for UL>DL PS rates	6.7.0	6.8.0
	RP-26	RP-040475	034		Radio bearer combination for PS streaming in section 7.1.74	6.7.0	6.8.0
	RP-26	RP-040475	035	1	Correct TFCS used in 128DL RAB	6.7.0	6.8.0
03/2005	RP-27	RP-050064	036		Addition of asymetric RAB-combinations with voice	6.8.0	6.9.0
	RP-27	RP-050071	037		AMR-WB reference RAB configurations	6.8.0	6.9.0

History

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