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To : **TSG-T, TSG-RAN**

Cc : **TSG-SA, TSG-CN**

Source: **GSM Association - IMT-2000 Steering Group (ISG)**

Title: **Typical Radio Parameter Sets Document submission**

Document for: Information

Agenda Item: 4.2

Please find attached the document "Typical Radio Parameter Sets" for information. This document is expected to be utilized in 3GPP according to the decision on the input paper entitled "GSMA ISG activity on Typical Radio Parameter sets."

Meeting Number	**ISG #3**	**IS Doc 039/00**
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Title Typical Radio Parameter Sets Document submission

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Restricted - Members		**X**
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Information Category	

Document History

Revision	Date	Brief Description

Summary

Title: Typical Radio Parameter Sets Document submission to 3GPP

Document for: Information

Typical Radio Interface Parameter Sets

Version 1.0

February 2000

Contents

1. Scope

This document describes the typical parameter sets for layer 1 and 2 configurations preferred by operators to ensure interoperability. It has to be noted that these sets of prioritised parameters are not imposing constraints in the standard, nor removing the flexibility which has been included in the standard as a requirement from the operators, nor will the document define specific essential services for roaming in IMT-2000(UTRA FDD) networks. Moreover, the identification of typical parameter sets does not prevent operators to exploit full flexibility in their networks by the use of parameter settings which are not mentioned in this document. It is expected that the prioritised parameter sets identified in this document will be reflected in the test specifications for UTRA FDD mobile handsets, forming the first class testing cases.

2. Reference

[1] 3G TS 25.211 Physical Channels and mapping of Transport Channels onto Physical channels (FDD)
[2] 3G TS 25.212 Multiplexing and Channel Coding (FDD)
[3] 3G TS 23.107 QoS concept and Architecture
[4] 3G TS 26.110 Codec for Circuit Switched Multimedia Telephony Service; General Description
[5] 3G TS 29.007 General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)
[6] 3G TR 23.910 Circuit Switched Data Bearer Service

3. Abbreviations

AM	Acknowledgement mode
BCCH	Broadcast Control Channel
CBS	Cell Broadcast Service
CC	Convolutional coding
CCCH	Common Control Channel
CCTrCH	Coded Composite Transport Channel
CS	Circuit switching
DCCH	Dedicated Control Channel
DL	Downlink
DPCH	Dedicated Physical Channel
DT	Direct transfer
DTCH	Dedicated Traffic Channel
FTM	File tunnelling mode
NAS	Non-access stratum
PRACH	Physical Randome Access Channel
PS	Packet switching
RAB	Radio Access Bearer
RB	Radio Bearer
SCCPCH	Secondary Common Control Physical Channel
SMS	Short Message Service
SRB	Signalling RB
SSD	Source statistics descriptor
TC	Turbo coding
TM	Transparent mode
UL	Uplink
UM	Unacknowledgement mode

4. QoS Architecture and RAB attributes

From a user point-of-view services are considered end-to-end, this means from a Terminal Equipment (TE) to another TE. An End-to-End Service may have a certain Quality of Service (QoS) which is provided for the user through the different networks. In UMTS, it is the UMTS Bearer Service that provides the requested QoS through the use of different QoS classes as defined in TS 23.107 [3].
The UMTS Bearer Service consists of two parts, the Radio Access Bearer Service, RAB, and the Core Network Bearer Service. The Radio Access Bearer Service is realised by a Radio Bearer Service and an Iu-Bearer Service. The relationship between the services is illustrated in figure 1.

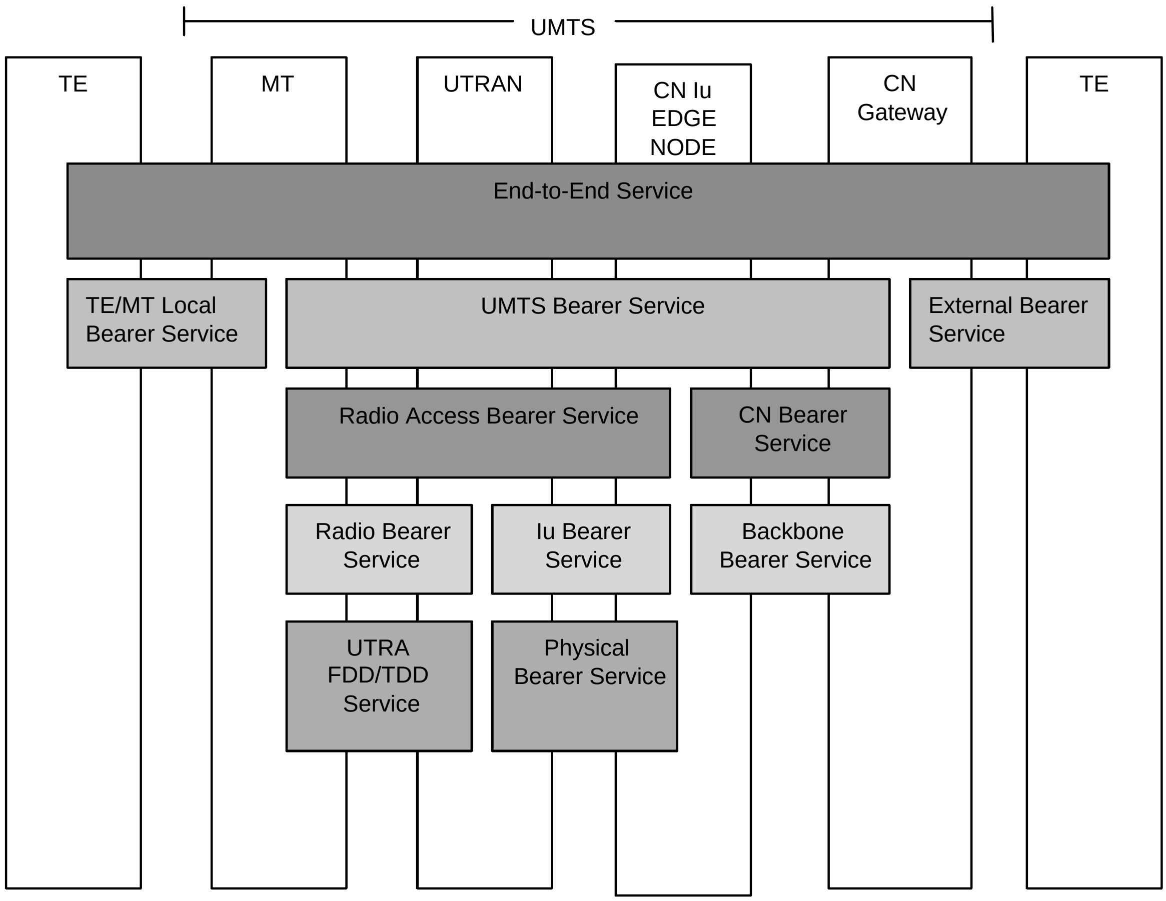

Figure 1: UMTS QoS Architecture

The Radio Access Bearer Service is characterised by a number of attributes such as Traffic class, Maximum bit rate, Guaranteed bit rate, SDU error ratio, Residual BER, Transfer Delay etc [3]. As a first approach the four following attributes have been considered to come up with the parameter settings in section 5.4:
- Traffic class
- SSD
- Maximum bit rate
- Residual BER

The Traffic classes are explained in table 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 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. RAB and signalling RB

5.1. RABs and signalling RBs

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

Table 2: Prioritised RABs.

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

26	Interactive or Background	N/A	UL:128 DL:2048	PS
27	Interactive or Background	N/A	UL:384 DL:2048	PS

Table 3: Signalling RBs

#	Maximum rate, kbps	Logical channel
1	UL:1.7 DL:1.7	DCCH
2	UL:3.4 DL:3.4	DCCH
3	UL:13.6 DL:13.6	DCCH
4	UL:16.6	CCCH
5	DL:50.4	CCCH
6	DL:16.6	BCCH:
7	DL:32	PCCH

5.2. Combinations of RABs and Signalling RBs

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

Combinations on DPCH
1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH
2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH
3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH
4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
8) Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
9) Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
10) Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB
   + UL:1.7 DL:1.7 kbps SRBs for DCCH
11) Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB
   + UL:1.7 DL:1.7 kbps SRBs for DCCH
12) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
13) Conversational / unknown / UL:32 DL:32 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
14) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
15) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
16) Streaming / unknown / UL:0 DL:64 kbps / PS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
17) Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
18) Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
19) Interactive or background / UL:32 DL:8 kbps / PS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH
20) Interactive or background / UL:64 DL:8 kbps / PS RAB
   + UL:3.4 DL:3.4 kbps SRBs for DCCH

21) Interactive or background / UL:32 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
22) Interactive or background / UL:64 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
23) Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
24) Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
25) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
26) Interactive or background / UL:128 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
27) Interactive or background / UL:384 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
28) Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
29) Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
30) Interactive or background / UL:384 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
31) 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
32) 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
33) 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
34) 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
35) 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
36) 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
37) 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
38) 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
39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:384 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
41) 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
42) 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
43) 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
44) 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

45) 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

46) 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

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

Combinations on DSCH and DPCH

1) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

Combinations on SCCPCH

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

Combinations on PRACH

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

5.3. Example of linkage between RABs and services

RABs, which are included in this document, can provide the services as shown in Table 1. Furthermore, the required BER for each RAB, which is assumed in this document, is shown in Table 4.

Table 4: Example of linkage between RABs and services

RAB				Residual BER[3]	Services
Traffic class[3]	SSD[3]	Max. rate, kbps	CS/PS		
Conversational	Speech	UL:4.75-12.2 DL:4.75-12.2	CS	$5x10^{-4}$, $1x10^{-3}$, $5x10^{-3}$	AMR speech
Conversational	Unknown	UL:64 DL:64	CS	$1x10^{-4}$ or $1x10^{-6}$	UDI 1B, 64k 3G-324M[4]
Conversational	Unknown	UL:32 DL:32	CS	$1x10^{-4}$ or $1x10^{-6}$	32k 3G-324M[4]
Streaming	Unknown	UL:28.8 DL:28.8	CS	$1x10^{-3}$	FAX[6] PIAFS 32 kbps
Streaming	Unknown	UL:57.6 DL:57.6	CS	$1x10^{-3}$	Modem[6], FTM[5], PIAFS 64 kbps
Streaming	Unknown	UL:0 DL:64	PS	$1x10^{-3}$ or $1x10^{-4}$	Streaming video, uni-directional

Streaming	Unknown	UL:0 DL:128-384	CS or PS	$1x10^{-3}$ or $1x10^{-4}$	
Interactive or Background	N/A	UL:32-384 DL:8-2048	PS	$1x10^{-3}$ or $1x10^{-4}$	Packet

Note: SMS can be provided via the signalling RB (DCCH) on DPCH or SCCPCH.
Note: CBS can be provided via the signalling RB (CTCH) on SCCPCH
Note: UDI *n*B can be provided via *n* RABs of conversational 64 kbps.

5.4. Typical parameter sets

5.4.1. Combinations on DPCH

5.4.1.1. Transport channel parameters for RABs and signalling RBs

5.4.1.1.1. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

5.4.1.1.1.1. Uplink

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

5.4.1.1.1.2. Downlink

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

	Max number of bits/TTI after channel coding	303	333	136

5.4.1.1.2. Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB

5.4.1.1.2.1. Uplink

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

5.4.1.1.2.2. Downlink

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

5.4.1.1.3. Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB

5.4.1.1.3.1. Uplink

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

5.4.1.1.3.2. Downlink

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

5.4.1.1.4. Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB

5.4.1.1.4.1. Uplink

Higher layer	RAB/Signalling RB	**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	61 39	87

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

5.4.1.1.4.2. Downlink

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

5.4.1.1.5. Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB

5.4.1.1.5.1. Uplink

Higher layer	RAB/Signalling RB	**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	58 39	76
	Max data rate, bps	6700	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	58 39	76

	TFS	TF0, bits	0	0
		TF1, bits	1x58	1x76
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		234	252
	Uplink: Max number of bits/radio frame before rate matching		117	126

5.4.1.1.5.2. Downlink

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

5.4.1.1.6. Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB

5.4.1.1.6.1. Uplink

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

	Uplink: Max number of bits/radio frame before rate matching	113	107

5.4.1.1.6.2. Downlink

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

5.4.1.1.7. Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB

5.4.1.1.7.1. Uplink

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

5.4.1.1.7.2. Downlink

Higher layer	RAB/Signalling RB	**RAB subflow #1**	**RAB subflow #2**

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

5.4.1.1.8. Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB

5.4.1.1.8.1. Uplink

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

5.4.1.1.8.2. Downlink

Higher layer	RAB/Signalling RB	**RAB subflow #1**	**RAB subflow #2**
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	42 39	53
	Max data rate, bps	4750	
	RLC header, bit	0	
MAC	MAC header, bit	0	

	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		42 39	53
	TFS	TF0, bits	0	0
		TF1, bits	1x42	1x53
		TF2, bits	1x39	-
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	-
	Max number of bits/TTI after channel coding		186	183

5.4.1.1.9. Conversational / unknown / UL:64 DL:64 kbps / CS RAB

5.4.1.1.9.1. Uplink

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

5.4.1.1.9.2. Downlink

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

5.4.1.1.10. Conversational / unknown / UL:32 DL:32 kbps / CS RAB

5.4.1.1.10.1. Uplink

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

5.4.1.1.10.2. Downlink

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

5.4.1.1.11. Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB

5.4.1.1.11.1. Uplink

Higher layer	RAB/Signalling RB	**RAB**
RLC	Logical channel type	DTCH
	RLC mode	TM
	Payload sizes, bit	576
	Max data rate, bps	28800
	RLC header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH

	TB sizes, bit		576
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3564
	Uplink: Max number of bits/radio frame before rate matching		891

5.4.1.1.11.2. Downlink

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

5.4.1.1.12. Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB

5.4.1.1.12.1. Uplink

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

	Uplink: Max number of bits/radio frame before rate matching	1779

5.4.1.1.12.2. Downlink

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

5.4.1.1.13. Streaming / unknown / UL:0 DL:64 kbps / PS RAB

5.4.1.1.13.1. Uplink

TBD

5.4.1.1.13.2. Downlink

TBD

5.4.1.1.14. Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB

5.4.1.1.14.1. Uplink

TBD

5.4.1.1.14.2. Downlink

TBD

5.4.1.1.15. Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB

5.4.1.1.15.1. Uplink

TBD

5.4.1.1.15.2. Downlink

TBD

5.4.1.1.16. Interactive or background / UL:32 DL:8 kbps / PS RAB

5.4.1.1.16.1. Uplink

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
	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

5.4.1.1.16.2. Downlink

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

5.4.1.1.17. Interactive or background / UL:64 DL:8 kbps / PS RAB

5.4.1.1.17.1. Uplink

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	64000
	RLC header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH

	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4236
	Uplink: Max number of bits/radio frame before rate matching		2118

5.4.1.1.17.2. Downlink

See 5.4.1.1.16.2.

5.4.1.1.18. Interactive or background / UL:32 DL: 64 kbps / PS RAB

5.4.1.1.18.1. Uplink

See 5.4.1.1.16.1.

5.4.1.1.18.2. Downlink

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

5.4.1.1.19. Interactive or background / UL:64 DL: 64 kbps / PS RAB

5.4.1.1.19.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.19.2. Downlink

See 5.4.1.1.18.2.

5.4.1.1.20. Interactive or background / UL:64 DL:128 kbps / PS RAB

5.4.1.1.20.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.20.2. Downlink

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

5.4.1.1.21. Interactive or background / UL:128 DL:128 kbps / PS RAB

5.4.1.1.21.1. Uplink

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

5.4.1.1.21.2. Downlink

See 5.4.1.1.20.2.

5.4.1.1.22. Interactive or background / UL:64 DL:384 kbps / PS RAB

5.4.1.1.22.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.22.2. Downlink

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

5.4.1.1.23. Interactive or background / UL:128 DL:384 kbps / PS RAB

5.4.1.1.23.1. Uplink

See 5.4.1.1.21.1.

5.4.1.1.23.2. Downlink

See 5.4.1.1.22.2.

5.4.1.1.24. Interactive or background / UL:384 DL:384 kbps / PS RAB

5.4.1.1.24.1. Uplink

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		384000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH(or DSCH for DL)
	TB sizes, bit		336
	TFS	TF0, bits	0
		TF1, bits	1x336

		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	12x336
		(alt. TF6, bits)	(alt. 24 x336)
	TTI, ms		10(alt. 20)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		12684(alt. 25368)
	Uplink: Max number of bits/radio frame before rate matching		12684

5.4.1.1.24.2. Downlink

See 5.4.1.1.22.2.

5.4.1.1.25. Interactive or background / UL:64 DL:2048 kbps / PS RAB

5.4.1.1.25.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.25.2. Downlink

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

5.4.1.1.26. Interactive or background / UL:128 DL:2048 kbps / PS RAB

5.4.1.1.26.1. Uplink

See 5.4.1.1.21.1.

5.4.1.1.26.2. Downlink

See 5.4.1.1.25.2.

5.4.1.1.27. Interactive or background / UL:384 DL:2048 kbps / PS RAB

5.4.1.1.27.1. Uplink

See 5.4.1.1.24.1.

5.4.1.1.27.2. Downlink

See 5.4.1.1.25.2.

5.4.1.1.28. UL:1.7 DL:1.7 kbps SRBs for DCCH

5.4.1.1.28.1. Uplink

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

5.4.1.1.28.2. Downlink

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

5.4.1.1.29. UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.1.29.1. Uplink

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

5.4.1.1.29.2. Downlink

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

5.4.1.1.30. UL:13.6 DL:13.6 kbps SRBs for DCCH

5.4.1.1.30.1. Uplink

Higher layer	RAB/signalling RB	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128

	Max data rate, bps		13600	12800	12800	12800
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
		TF2, bits	2x148			
	TTI, ms		20			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		1008			
	Uplink: Max number of bits/radio frame before rate matching		504			

5.4.1.1.30.2. Downlink

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		13600	12800	12800	12800
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
		TF2, bits	2x148			
	TTI, ms		20			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		1008			

5.4.1.2. Physical channel parameters for combinations of RABs and signalling RBs

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

5.4.1.2.1.1. Uplink

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

5.4.1.2.1.2. Downlink

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

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

5.4.1.2.2.1. Uplink

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

5.4.1.2.2.2. Downlink

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

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

5.4.1.2.3.1. Uplink

DPCH Uplink	RAB or SRB, TrCh	**13.6 kbps SRB for DCCH, DCH**
	TFCS size	3
	Min spreading factor	64
	Max number of DPDCH data bits/radio frame	600
	Puncturing Limit	1

5.4.1.2.3.2. Downlink

DPCH Downlink	RAB or SRB, TrCh		**13.6 kbps SRB for DCCH, DCH**
	DTX position		N/A (SingleTrCH)
	TFCS size		3
	Minimum spreading factor		128
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	34
		Number of data bits/frame	510

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

5.4.1.2.4.1. Uplink

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

5.4.1.2.4.2. Downlink

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

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

5.4.1.2.5.1. Uplink

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

	Puncturing Limit	1

5.4.1.2.5.2. Downlink

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

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

5.4.1.2.6.1. Uplink

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

5.4.1.2.6.2. Downlink

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

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

5.4.1.2.7.1. Uplink

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 7.4 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH

		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

5.4.1.2.7.2. Downlink

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

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

5.4.1.2.8.1. Uplink

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

5.4.1.2.8.2. Downlink

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

5.4.1.2.9. Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB

+ UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.2.9.1. Uplink

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

5.4.1.2.9.2. Downlink

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

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

5.4.1.2.10.1. Uplink

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

5.4.1.2.10.2. Downlink

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

		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	14
		Number of data bits/frame	210

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

5.4.1.2.11.1. Uplink

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

5.4.1.2.11.2. Downlink

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

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

5.4.1.2.12.1. Uplink

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

5.4.1.2.12.2. Downlink

DPCH Downlink	RAB or SRB, TrCh	**Conversational / unknown / 64 kbps / CS RAB, DCH**	**3.4 kbps SRB for DCCH, DCH**
	RM attribute	TBD	TBD
	TFCS size	4	
	DTX position	Flexible	
	Spreading factor	32	

	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

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

5.4.1.2.13.1. Uplink

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

5.4.1.2.13.2. Downlink

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

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

5.4.1.2.14.1. Uplink

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

5.4.1.2.14.2. Downlink

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

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

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

5.4.1.2.15.1. Uplink

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

5.4.1.2.15.2. Downlink

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

5.4.1.2.16. Streaming / unknown / UL:0 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.2.16.1. Uplink

See 5.4.1.2.2.1.

5.4.1.2.16.2. Downlink

TBD

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

5.4.1.2.17.1. Uplink

See 5.4.1.2..2.1.

5.4.1.2.17.2. Downlink

TBD

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

5.4.1.2.18.1. Uplink

See 5.4.1.2..2.1.

5.4.1.2.18.2. Downlink

TBD

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

5.4.1.2.19.1. Uplink

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

5.4.1.2.19.2. Downlink

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

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

5.4.1.2.20.1. Uplink

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

5.4.1.2.20.2. Downlink

See 5.4.1.2.19.2.

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

5.4.1.2.21.1. Uplink

See 5.4.1.2.19.1.

5.4.1.2.21.2. Downlink

<table>
<tr><td rowspan="11">DPCH Downlink</td><td colspan="2">RAB or SRB, TrCh</td><td>Interactive or background / 64 kbps / PS RAB, DCH</td><td>3.4 kbps SRB for DCCH, DCH</td></tr>
<tr><td colspan="2">RM attribute</td><td>TBD</td><td>TBD</td></tr>
<tr><td colspan="2">TFCS size</td><td colspan="2">8</td></tr>
<tr><td colspan="2">DTX position</td><td colspan="2">Flexible</td></tr>
<tr><td colspan="2">Spreading factor</td><td colspan="2">32</td></tr>
<tr><td rowspan="3">DPCCH</td><td>Number of TFCI bits/slot</td><td colspan="2">8</td></tr>
<tr><td>Number of TPC bits/slot</td><td colspan="2">4</td></tr>
<tr><td>Number of Pilot bits/slot</td><td colspan="2">8</td></tr>
<tr><td rowspan="2">DPDCH</td><td>Number of data bits/slot</td><td colspan="2">140</td></tr>
<tr><td>Number of data bits/frame</td><td colspan="2">2100</td></tr>
</table>

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

5.4.1.2.22.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.22.2. Downlink

See 5.4.1.2.21.2.

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

5.4.1.2.23.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.23.2. Downlink

<table>
<tr><td rowspan="11">DPCH Downlink</td><td colspan="2">RAB or SRB, TrCh</td><td>Interactive or background / 128 kbps / PS RAB, DCH</td><td>3.4 kbps SRB for DCCH, DCH</td></tr>
<tr><td colspan="2">RM attribute</td><td>TBD</td><td>TBD</td></tr>
<tr><td colspan="2">TFCS size</td><td colspan="2">10</td></tr>
<tr><td colspan="2">DTX position</td><td colspan="2">Flexible</td></tr>
<tr><td colspan="2">Spreading factor</td><td colspan="2">16</td></tr>
<tr><td rowspan="3">DPCCH</td><td>Number of TFCI bits/slot</td><td colspan="2">8</td></tr>
<tr><td>Number of TPC bits/slot</td><td colspan="2">8</td></tr>
<tr><td>Number of Pilot bits/slot</td><td colspan="2">16</td></tr>
<tr><td rowspan="2">DPDCH</td><td>Number of data bits/slot</td><td colspan="2">288</td></tr>
<tr><td>Number of data bits/frame</td><td colspan="2">4320</td></tr>
</table>

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

5.4.1.2.24.1. Uplink

<table>
<tr><td rowspan="6">DPCH Uplink</td><td>RAB or SRB, TrCh</td><td>Interactive or background / 128 kbps / PS RAB, DCH</td><td>3.4 kbps SRB for DCCH, DCH</td></tr>
<tr><td>RM attribute</td><td>TBD</td><td>TBD</td></tr>
<tr><td>TFCS size</td><td colspan="2">10</td></tr>
<tr><td>Min spreading factor</td><td colspan="2">8</td></tr>
<tr><td>Max number of DPDCH data bits/radio frame</td><td colspan="2">4800</td></tr>
<tr><td>Puncturing Limit</td><td colspan="2">1</td></tr>
</table>

5.4.1.2.24.2. Downlink

See 5.4.1.2.23.2.

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

5.4.1.2.25.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.25.2. Downlink

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

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

5.4.1.2.26.1. Uplink

See 5.4.1.2.24.1.

5.4.1.2.26.2. Downlink

See 5.4.1.2.25.2.

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

5.4.1.2.27.1. Uplink

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

5.4.1.2.27.2. Downlink

See 5.4.1.2.25.2.

5.4.1.2.28. Interactive or background / UL:64 DL:2048 kbps / PS RAB

+ UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.2.28.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.28.2. Downlink

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

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

5.4.1.2.29.1. Uplink

See 5.4.1.2.24.1.

5.4.1.2.29.2. Downlink

See 5.4.1.2.28.2.

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

5.4.1.2.30.1. Uplink

See 5.4.1.2.27.1.

5.4.1.2.30.2. Downlink

See 5.4.1.2.28.2.

5.4.1.2.31. 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

5.4.1.2.31.1. Uplink

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 32 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	18				
	Min spreading factor	16				

	Max number of DPDCH data bits/radio frame	2400
	Puncturing Limit	1

5.4.1.2.31.2. Downlink

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

5.4.1.2.32. 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

5.4.1.2.32.1. Uplink

See 5.4.1.2.31.1.

5.4.1.2.32.2. Downlink

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

5.4.1.2.33. 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

5.4.1.2.33.1. Uplink

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**	**Interactive or background / 64 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**

		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	24				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

5.4.1.2.33.2. Downlink

See 5.4.1.2.32.2.

5.4.1.2.34. 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

5.4.1.2.34.1. Uplink

See 5.4.1.2.33.1.

5.4.1.2.34.2. Downlink

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

5.4.1.2.35. 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

5.4.1.2.35.1. Uplink

See 5.4.1.2.33.1.

5.4.1.2.35.2. Downlink

DPCH Downlink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**Interactive or background / 384 kbps / PS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	36(alt. 42)				

	DTX position		Flexible
	Spreading factor		8
	Number of DPDCH		1
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9120

5.4.1.2.36. 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

5.4.1.2.36.1. Uplink

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

5.4.1.2.36.2. Downlink

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

5.4.1.2.37. 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

5.4.1.2.37.1. Uplink

DPCH Uplink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**	**Streaming / 57.6 kbps / CS RAB, DCH**	**3.4 kbps SRBs for DCCH, DCH**

		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	Min spreading factor	16				
	Max number of DPDCH data bits/radio frame	2400				
	Puncturing Limit	1				

5.4.1.2.37.2. Downlink

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

5.4.1.2.38. 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

5.4.1.2.38.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.38.2. Downlink

TBD

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

5.4.1.2.39.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.39.2. Downlink

TBD

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

5.4.1.2.40.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.40.2. Downlink

TBD

5.4.1.2.41. 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

5.4.1.2.41.1. Uplink

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

5.4.1.2.41.2. Downlink

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

5.4.1.2.42. 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

5.4.1.2.42.1. Uplink

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

5.4.1.2.42.2. Downlink

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

5.4.1.2.43. 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

5.4.1.2.43.1. Uplink

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

5.4.1.2.43.2. Downlink

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

5.4.1.2.44. 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

5.4.1.2.44.1. Uplink

See 5.4.1.2.43.1.

5.4.1.2.44.2. Downlink

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

5.4.1.2.45. 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

5.4.1.2.45.1. Uplink

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

5.4.1.2.45.2. Downlink

See 5.4.1.2.44.2

5.4.1.2.46. 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

5.4.1.2.46.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.46.2. Downlink

TBD

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

5.4.1.2.47.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.47.2. Downlink

TBD

5.4.2. Combinations on PDSCH and DPCH

5.4.2.1. Transport channel parameters for RABs and signalling RBs

5.4.2.1.1. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

See 5.4.1.1.1.

5.4.2.1.2. Interactive or background / UL:64 DL:384 kbps / PS RAB

See 5.4.1.1.22.

5.4.2.1.3. Interactive or background / UL:64 DL:2048 kbps / PS RAB

See 5.4.1.1.25.

5.4.2.1.4. UL:3.4 DL: 3.4 kbps SRBs for DCCH

See 5.4.1.1.29.

5.4.2.2. Physical channel parameters for combinations of RABs and signalling RBs

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

5.4.2.2.1.1. Uplink

See 5.4.1.2.20.1.

5.4.2.2.1.2. Downlink

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

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

5.4.2.2.2.1. Uplink

See 5.4.1.2.20.1.

5.4.2.2.2.2. Downlink

PDSCH	RAB or SRB, TrCh	**Interactive or background / 2048 kbps / PS RAB, DSCH**
	TFCS size	7(alt. 8)
	DTX position	N/A (SingleTrCH)
	Spreading factor	4
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh	**3.4 kbps SRB for DCCH, DCH**

	DTX position		N/A (SingleTrCH)
	Minimum spreading factor		256
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
		Number of data bits/frame	150

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

5.4.2.2.3.1. Uplink

See 5.4.1.2.33.1.

5.4.2.2.3.2. Downlink

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

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

5.4.2.2.4.1. Uplink

See 5.4.1.2.33.1.

5.4.2.2.4.2. Downlink

PDSCH	RAB or SRB, TrCh	**Interactive or background / 2048 kbps / PS RAB, DSCH**			
	TFCS size	7(alt. 8)			
	DTX position	N/A (SingleTrCH)			
	Spreading factor	4			
DPCH Downlink	RAB or SRB, TrCh	**Conversational / speech / 12.2 kbps / CS RAB, DCH**			**3.4 kbps SRBs for DCCH. DCH**
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			

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

5.4.3. Combinations on SCCPCH

5.4.3.1. Stand-alone signalling RB for PCCH

5.4.3.1.1. Transport channel parameter

Higher layer	RAB/signalling RB		**SRB**
	User of Radio Bearer		RRC
RLC	Logical channel type		PCCH
	RLC mode		TM
	Payload sizes, bit		320
	Max data rate, bps		32000
	RLC header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		PCH
	TB sizes, bit		320
	TFS	TF1, bts	0
		TF0, bits	1x320
	TTI, ms		10
	Coding type		CC 1/2
	CRC, bit		16
	Max number of bits/TTI before rate matching		688

5.4.3.1.2. Physical channel parameters

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

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

5.4.3.2.1. Transport channel parameters

Higher layer	RAB/signalling RB		**RAB**	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**SRB#5**	**SRB#6**
	User of Radio Bearer		Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type		DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode		AM	UM	UM	AM	AM	AM	TM
	Payload sizes, bit		320	504	136	128	128	128	166
	Max data rate, bps		32000	50400	13600	12800	12800	12800	16600
	RLC header, bit		16	8	8	16	16	16	0
MAC	MAC header, bit		24	8	24	24	24	24	2
	MAC multiplexing		N/A	N/A	5 logical channel multiplexing				
Layer 1	TrCH type		FACH	FACH	FACH				
	TB sizes, bit		360	520	168				
	TFS	TF1, bits	0	0	0				
		TF0, bits	1x360	1x520	1x168				
	TTI, ms		10	10	10				
	Coding type		TC	CC 1/2	CC 1/2				
	CRC, bit		16	16	16				
	Max number of bits/TTI before rate matching		1140	1088	384				

5.4.3.2.2. Physical channel parameters

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

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

5.4.3.3.1. Transport channel parameters

Higher layer	RAB/signalling RB		**RAB**	**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**SRB#5**	**SRB#6**	**SRB#7**
	User of Radio Bearer		Interactive / Background RAB	RRC	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type		DTCH	PCCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode		AM	TM	UM	UM	AM	AM	AM	TM
	Payload sizes, bit		320	320	504	136	128	128	128	166
	Max data rate, bps		32000	32000	50400	13600	12800	12800	12800	16600
	RLC header, bit		16	0	8	8	16	16	16	0
MAC	MAC header, bit		24	0	8	24	24	24	24	2
	MAC multiplexing		N/A	N/A	N/A	5 logical channel multiplexing				
Layer 1	TrCH type		FACH	PCH	FACH	FACH				
	TB sizes, bit		360	320	520	168				
	TFS	TF0, bits	0	0	0	0				
		TF1, bits	1x360	1x320	1x520	1x168				
	TTI, ms		10	10	10	10				
	Coding type		TC	CC 1/2	CC 1/2	CC 1/2				
	CRC, bit		16	16	16	16				
	Max number of bits/TTI before rate matching		1140	688	1088	384				

5.4.3.3.2. Physical channel parameters

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

5.4.4. Combinations on PRACH

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

5.4.4.1.1. Transport channel parameter

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

5.4.4.1.2. Physical channel parameters

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