

6.11 Common Radio Bearer configurations for other test purposes

The common radio bearer configurations are used for functional testing of various UE functions. Only common configurations that are used by multiple test cases and are not covered by the reference radio bearer configurations in clause 6.10 are specified in the present clause. Radio bearer configurations only used by a single test case are specified in the actual test case itself.

NOTE If not specifically specified then the mid-value of the RM attribute value range as specified by the actual reference radio bearer configuration shall be applied for testing.

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

6.11.1 Unacknowledged Mode Radio Bearer configuration (7 bit Length Indicator)

This configuration is based on the Interactive or background / UL:8 DL 8 kbps / PS RAB + UL:3.4 DL 3.4 kbps SRBs for DCCH (see clause 6.10.2.4.1.23a) with the transport channels parameters of the RAB and TFCS defined as follows.

6.11.1.1 Transport channel parameters for the Uplink RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		8 200
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms		40
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI after channel coding		1 080
	Uplink: Max number of bits/radio frame before rate matching		270
	RM attribute		135 to 175

6.11.1.2 TFCS

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

6.11.1.3 Transport channel parameters for the Downlink RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		8 200
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336

	TTI, ms	40
	Coding type	CC 1/3
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 080
	RM attribute	135 to 175

6.11.1.4 TFCS

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

6.11.1a Streaming / unknown / DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.1a.1 Uplink

6.11.1a.1.1 Transport channel parameters

6.11.1a.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2.

6.11.1a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.1a.1.1.3 TFCS

See clause 6.10.2.4.1.23a.1.1.3

6.11.1a.1.2 Physical channel parameters

See clause 6.10.2.4.1.23a.1.2

6.11.1a.2 Downlink

6.11.1a.2.1 Transport channel parameters

6.11.1a.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	UM	
	Payload sizes, bit	648	
	Max data rate, bps	64 800	
	UM PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 076	
RM attribute	125 to 165		

6.11.1a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2.

6.11.1a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.1a.2.1.4 TFCS

See clause 6.10.2.4.1.58.2.1.4

6.11.1a.2.2 Physical channel parameters

See clause 6.10.2.4.1.58.2.2

6.11.1b Streaming / unknown / DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.1b.1 Uplink

6.11.1b.1.1 Transport channel parameters

6.11.1b.1.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.1b.1.1.2 TFCS

See clause 6.10.2.4.1.2.1.1.3

6.11.1b.1.2 Physical channel parameters

See clause 6.10.2.4.1.2.1.2

6.11.1b.2 Downlink

6.11.1b.2.1 Transport channel parameters

6.11.1b.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

See Clause 6.10.2.4.xx.2.1.1

6.11.1b.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.1b.2.1.3 TFCS

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

6.11.1b.2.2 Physical channel parameters

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

6.11.1c 8kbps RB for MBSFN MTCH (3.84 Mcps TDD)

6.11.1c.1 Transport channel parameters

6.11.1c.1.1 Transport channel parameters for 8 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		8200
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		345
	TFS	TF0, bits	0x345
		TF1, bits	1x345
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1095
	Max number of bits/radio frame before rate matching		274
	RM attribute		128

6.11.1c.1.2 TFCS

TFCS size	2
TFCS	8 kbps RAB =TF0, TF1

6.11.1c.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF16 x 1 code x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	248 bits
	TFCI code word	(16,5)
	Puncturing limit	0.84

6.11.1d 8kbps RB for MBSFN MTCH (7.68 Mcps TDD)

6.11.1d.1 Transport channel parameters

6.11.1d.1.1 Transport channel parameters for 8 kbps PS RAB

See clause 6.11.1c.1.1

6.11.1d.1.2 TFCS

TFCS size	2
TFCS	8 kbps RAB =TF0, TF1

6.11.1d.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF32 x 1 code x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	248 bits
	TFCI code word	(16,5)
	Puncturing limit	0.84

6.11.1e 8kbps RB for MBSFN MTCH (3.84 Mcps TDD IMB)

6.11.1e.1 Transport channel parameters

6.11.1e.1.1 Transport channel parameters for 8kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		8200
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		344
	TFS	TF0, bits	0x344
		TF1, bits	1x344
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1092
	Max number of bits/radio frame before rate matching		273
	RM attribute		128

6.11.1e.1.2 TFCS

TFCS size	2
TFCS	8 kbps RAB =TF0, TF1

6.11.1e.2 Physical channel parameters

S-CCPCH Type 2	DTX position		Flexible
	Spreading factor		16
	Number of codes		1
	Number of data bits/slot		272
	Number of data bits/frame		816
	Modulation		QPSK
	Slot Format #		Format 3

6.11.2 Unacknowledged Mode Radio Bearer configuration (15 bit Length Indicator)

This configuration is based on the Interactive or background / UL:64 DL 64 kbps / PS RAB + UL:3.4 DL 3.4 kbps SRBs for DCCH (see clause 6.10.2.4.1.26) with the transport channels parameters of the RAB defined as followed.

6.11.2.1 Transport channel parameters for the Uplink RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		1 336
	Max data rate, bps		66 800
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		1 344
	TFS	TF0, bits	0x1344
		TF1, bits	1x1344
	TTI, ms		20

	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	4 092
	Uplink: Max number of bits/radio frame before rate matching	2 046
	RM attribute	130 to 170

6.11.2.2 Transport channel parameters for the Downlink RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	1 336	
	Max data rate, bps	66 800	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	1 344	
	TFS	TF0, bits	0x1344
		TF1, bits	1x1344
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 092	
	RM attribute	130 to 170	

6.11.2a 64kbps RB for MBSFN MTCH (3.84 Mcps TDD)

6.11.2a.1 Transport channel parameters

6.11.2a.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	1336	
	Max data rate, bps	66800	
	UMD PDU header, bit	8	
MAC	MAC header, bit	9	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	1353	
	TFS	TF0, bits	0x1353
		TF1, bits	1x1353
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4119	
	Max number of bits/radio frame before rate matching	2060	
RM attribute	128		

6.11.2a.1.2 TFCS

TFCS size	2
TFCS	64 kbps RAB = TF0, TF1

6.11.2a.2 Physical channel parameters

S-CCPCH	Midamble	320 chips (burst type 4)
	Codes and time slots	SF16 x 8 codes x 1 time slot
	Modulation	QPSK

	Max. Number of data bits/radio frame	2096 bits
	TFCI code word	(16,5)
	Puncturing limit	1

6.11.2b 64kbps RB for MBSFN MTCH (7.68 Mcps TDD)

6.11.2b.1 Transport channel parameters

6.11.2b.1.1 Transport channel parameters for 64 kbps PS RAB

See clause 6.11.2a.1.1

6.11.2b.1.2 TFCS

TFCS size	2
TFCS	64 kbps RAB =TF0, TF1

6.11.2b.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	2096 bits
	TFCI code word	(16,5)
	Puncturing limit	1

6.11.3 Acknowledged Mode Radio Bearer configuration (7 bit Length Indicator)

This configuration is based on the Interactive or background / UL:8 DL 8 kbps / PS RAB + UL:3.4 DL 3.4 kbps SRBs for DCCH (see clause 6.10.2.4.1.23a) with the transport channels parameters of the RAB and TFCS defined as follows.

6.11.3.1 Transport channel parameters for the Uplink RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	128	
	Max data rate, bps	6 400	
	UMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	144	
	TFS	0x144	0x144
		1x144	1x144
	TTI, ms	20	
	Coding type	CC 1/3	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	504	
	Uplink: Max number of bits/radio frame before rate matching	252	
	RM attribute	135 to 175	

6.11.3.2 TFCS

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

6.11.3.3 Transport channel parameters for the Downlink RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	128	
	Max data rate, bps	6 400	
	UMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	144	
	TFS	0x144	0x144
		1x144	1x144
	TTI, ms	20	
	Coding type	CC 1/3	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	504	
	RM attribute	135 to 175	

6.11.3.4 TFCS

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

6.11.4 Acknowledged Mode Radio Bearer configuration (15 bit Length Indicator)

This configuration is based on the Interactive or background / UL:64 DL 64 kbps / PS RAB + UL:3.4 DL 3.4 kbps SRBs for DCCH (see clause 6.10.2.4.1.26) with the transport channels parameters of the RAB defined as followed.

6.11.4.1 Transport channel parameters for the Uplink RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	1 328	
	Max data rate, bps	66 400	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	1 344	
	TFS	TF0, bits	0x1344
		TF1, bits	1x1344
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 092	
	Uplink: Max number of bits/radio frame before rate matching	2 046	
RM attribute	130 to 170		

6.11.4.2 Transport channel parameters for the Downlink RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	1 328
	Max data rate, bps	66 400
	AMD PDU header, bit	16
MAC	MAC header, bit	0

	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	1 344	
	TFS	TF0, bits	0x1344
		TF1, bits	1x1344
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 092	
RM attribute	130 to 170		

6.11.4a Reference Radio Bearer configurations used in MAC-hs testing

6.11.4a.1 5 x Interactive or background / UL: 8 kbps DL: [max bit rate depending on UE category] / UM PS RAB

This reference radio bearer configuration is used by the MAC-hs test case 7.1.5.2 in 3GPP TS 34.123-1 [1].

6.11.4a.1.1 Uplink

6.11.4a.1.1.1 Uplink Transport channel parameters for DCH

6.11.4a.1.1.1.1 Transport channel parameters for 5 x Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6	RB7	RB8	RB9	
RLC	Logical channel type	DTCH	DTCH	DTCH	DTCH	DTCH	
	RLC mode	UM	UM	AM	AM	AM	
	Payload sizes, bit	328	328	320	320	320	
	Max data rate, bps	8 200	8 200	8 000	8 000	8 000	
	UMD/AMD PDU header, bit	8	8	16	16	16	
MAC	MAC header, bit	4	4	4	4	4	
	MAC multiplexing	5 logical channel multiplexing					
Layer 1	TrCH type	DCH					
	TB sizes, bit	340					
	TFS	TF0, bits	0x340				
		TF1, bits	1x340				
	TTI, ms	40					
	Coding type	TC					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	1 080					
	Uplink: Max number of bits/radio frame before rate matching	270					
	RM attribute	135 to 175					

6.11.4a.1.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4a.1.1.1.3 Uplink TFCS

TFCS size	4
TFCS	(5x8 kbps PS RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

6.11.4a.1.1.2 Uplink physical channel parameters

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

6.11.4a.1.2 Downlink

6.11.4a.1.2.1 Transport channel parameters for HS-DSCH

6.11.4a.1.2.1.1 MAC-d flow #1 parameters for 2 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6
RLC	Logical channel type	DTCH	DTCH
	RLC mode	UM	UM
	Payload sizes, bit	328	328
	Max data rate, bps	depends on UE category	depends on UE category
	UMD PDU header, bit	8	8
MAC-d	MAC-d header, bit	4	4
	MAC multiplexing	2 logical channel multiplexing	
	MAC-d PDU size, bit	340	

6.11.4a.1.2.1.2 MAC-d flow #2 parameters for 2 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB7	RB8
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320
	Max data rate, bps	depends on UE category	depends on UE category
	AMD PDU header, bit	16	16
MAC-d	MAC-d header, bit	4	4
	MAC multiplexing	2 logical channel multiplexing	
	MAC-d PDU size, bit	340	

6.11.4a.1.2.1.3 MAC-d flow#3 parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB9
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	depends on UE category
	AMD PDU header, bit	16
MAC-d	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	336

6.11.4a.1.2.1.4 MAC-hs and Layer 1 parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

MAC-hs	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24

6.11.4a.1.2.2 Downlink Transport channel parameters for DCH

6.11.4a.1.2.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4a.1.2.2.2 Downlink TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

6.11.4a.1.2.3 Downlink physical channel parameters

6.11.4a.1.2.3.1 Downlink physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4a.1.2.3.2 Physical channel parameters on HS-PDSCH

UE HS-DSCH Physical Layer:

HS-PDSCH	Number of processes	2
	Process memory size	Split equally among all processes
	Max Data Rate	Depending on UE category

6.11.4b Interactive or background / UL: 0 kbps DL: 0 kbps PS RAB

This reference radio bearer configuration is used by the RRC test case 8.4.1.43 in 3GPP TS 34.123-1 [1].

6.11.4b.1 Uplink

6.11.4b.1.1 Uplink Transport channel parameters for DCH

6.11.4b.1.1.1 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

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

6.11.4b.1.1.2 Uplink TFCS

TFCS size	2
TFCS	(0 kbps RAB, DCCH)= (TF0, TF0), (TF0, TF1)

6.11.4b.1.2 Uplink physical channel parameters

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

6.11.4b.2 Downlink

6.11.4b.2.1 Downlink Transport channel parameters for DCH

6.11.4b.2.1.1 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

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

	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	0
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336
	TFS TF0, bits	0x336
	TTI, ms	20
	Coding type	CC
	CRC, bit	16
	Max number of bits/TTI after channel coding	0
	RM attribute	130 to 170

6.11.4b.2.1.1.2 Downlink TFCS

TFCS size	2
TFCS	(0 kbps RAB, DCCH)= (TF0, TF0), (TF0, TF1)

6.11.4b.2.2 Downlink 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	34
		Number of data bits/frame	510

6.11.4c Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.4c.1 Uplink

6.11.4c.1.1 Transport channel parameters

6.11.4c.1.1.1 Transport channel parameters for E-DCH

6.11.4c.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 2	Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE 2	Alt 3 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	UM		
	Payload sizes, bit	328	328	Flexible up to 12000
	Max data rate, bps	Depends on UE category and TTI		
	UMD PDU header, bit	8		
MAC	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336	336	Flexible
	MAC type	MAC-e/es	MAC-i/is	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24	24
Layer 1	TrCH type	E-DCH		
	TTI	10ms (alt. 2ms) (NOTE 1)		
	Coding type	TC		
	CRC, bit	24		
NOTE 1: The support of 2ms TTI depends on the UE category				
NOTE 2: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) or 3 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.				

6.11.4c.1.1.1.2 Transport channel parameters for DCH

6.11.4c.1.1.1.2.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4c.1.2 Physical channel parameters

6.11.4c.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1

6.11.4c.1.2.2 Physical channel parameters for DPCH

See clause 6.10.2.4.1.2.1.2

6.11.4c.2 Downlink

6.11.4c.2.1 Transport channel parameters

6.11.4c.2.1.1 Transport channel parameters for HS-DSCH

6.11.4c.2.1.1.1 MAC-d flow parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

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

	RLC mode	UM
	Payload sizes, bit	328
	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	336
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24
NOTE: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).		

6.11.4c.2.1.1.2 Transport channel parameters for DCH

6.11.4c.2.1.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4c.2.1.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.11.4c.2.2 Physical channel parameters

6.11.4c.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4c.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4d Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] + DL: 3.4 kbps SRBs for DCCH on E-DCH and DCH

6.11.4d.1 Uplink

6.11.4d.1.1 Transport channel parameters

6.11.4d.1.1.1 Transport channel parameters for E-DCH

6.11.4d.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2

6.11.4d.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1.

6.11.4d.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1.

6.11.4d.1.2 Physical channel parameters

6.11.4d.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.11.4d.2 Downlink

6.11.4d.2.1 Transport channel parameters

6.11.4d.2.1.1 Transport channel parameters for HS-DSCH

6.11.4d.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4c.2.1.1.1.

6.11.4d.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4c.2.1.1.1.

6.11.4d.2.1.2 Transport channel parameters for DCH

6.11.4d.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4d.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.11.4d.2.2 Physical channel parameters

6.11.4d.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4d.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4e Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.4e.1 Uplink

6.11.4e.1.1 Transport channel parameters

6.11.4e.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	UM
	Payload sizes, bit	328
	Max data rate, bps	65 800
	UMD PDU header, bit	8
MAC	MAC header, bit	0
	MAC multiplexing	N/A

Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4 236
Uplink: Max number of bits/radio frame before rate matching		2 118	
RM attribute		130 to 170	

6.11.4e.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4e.1.1.3 TFCS

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

6.11.4e.1.2 Physical channel parameters

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

6.11.4e.2 Downlink

6.11.4e.2.1 Transport channel parameters

6.11.4e.2.1.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		65 800
	UMD PDU header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	3x336
		TF4, bits	4x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4 236
RM attribute		130 to 170	

6.11.4e.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4e.2.1.3 TFCS

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

6.11.4e.2.2 Physical channel parameters

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

6.11.4f Reference Radio Bearer configurations used in MAC-ehs testing

6.11.4f.1 3 x Interactive or background / UL: 8 kbps DL: [max bit rate depending on UE category] / UM PS RAB

This reference radio bearer configuration is used by the MAC-ehs test case 7.1.x.x in 3GPP TS 34.123-1 [1].

6.11.4f.1.1 Uplink

6.11.4f.1.1.1 Uplink Transport channel parameters for DCH

6.11.4f.1.1.1.1 Transport channel parameters for 3 x Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6	RB7
RLC	Logical channel type	DTCH	DTCH	DTCH
	RLC mode	UM	UM	UM
	Payload sizes, bit	328	328	320
	Max data rate, bps	8 200	8 200	8 000
	UMD/AMD PDU header, bit	8	8	8
MAC	MAC header, bit	4	4	4
	MAC multiplexing	3 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080		
	Uplink: Max number of bits/radio frame before rate matching	270		
	RM attribute	135 to 175		

6.11.4f.1.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4f.1.1.1.3 Uplink TFCS

TFCS size	4
TFCS	(5x8 kbps PS RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

6.11.4f.1.1.2 Uplink physical channel parameters

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

6.11.4f.1.2 Downlink

6.11.4f.1.2.1 Transport channel parameters for HS-DSCH

6.11.4f.1.2.1.1 parameters for 3 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6	RB7
RLC	Logical channel type	DTCH	DTCH	DTCH
	RLC mode	UM	UM	UM
	Payload sizes, bit	328	328	328
	Max data rate, bps	depends on UE category		
	UMD PDU header, bit	8	8	8
MAC-d	MAC-d header, bit	None		
	MAC multiplexing	None		
	MAC-d PDU size, bit	336		

6.11.4f.1.2.1.2 MAC-ehs and Layer 1 parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

MAC-ehs	MAC-ehs header fixed part, bit	FFS
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24

6.11.4f.1.2.2 Downlink Transport channel parameters for DCH

6.11.4f.1.2.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4f.1.2.2.2 Downlink TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

6.11.4f.1.2.3 Downlink physical channel parameters

6.11.4f.1.2.3.1 Downlink physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4f.1.2.3.2 Physical channel parameters on HS-PDSCH

UE HS-DSCH Physical Layer:

HS-PDSCH	Number of processes	2
	Process memory size	Split equally among all processes
	Max Data Rate	Depending on UE category

6.11.4f.2 1 x Interactive or background / UL: 8 kbps DL: [max bit rate depending on UE category] / UM PS RAB

This reference radio bearer configuration is used by the MAC-ehs test case 7.1.x.x in 3GPP TS 34.123-1 [1].

6.11.4f.2.1 Uplink

6.11.4f.2.1.1 Uplink Transport channel parameters for DCH

6.11.4f.2.1.1.1 Transport channel parameters for 1 x Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RB5	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	328	
	Max data rate, bps	8 200	
	UMD/AMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 080	
	Uplink: Max number of bits/radio frame before rate matching	270	
	RM attribute	135 to 175	

6.11.4f.2.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4f.2.1.1.3 Uplink TFCS

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

6.11.4f.2.1.2 Uplink physical channel parameters

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

6.11.4f.2.2 Downlink

6.11.4f.2.2.1 Transport channel parameters for HS-DSCH

6.11.4f.2.2.1.1 parameters for 1 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB5
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	Max data rate, bps	depends on UE category
	UMD PDU header, bit	8
MAC-d	MAC-d header, bit	None
	MAC multiplexing	None
	MAC-d PDU size, bit	336
MAC-ehs	MAC-ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24

6.11.4f.2.2.2 Downlink Transport channel parameters for DCH

6.11.4f.2.2.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4f.2.2.2.2 Downlink TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

6.11.4f.2.2.3 Downlink physical channel parameters

6.11.4f.2.2.3.1 Downlink physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4f.2.2.3.2 Physical channel parameters on HS-PDSCH

UE HS-DSCH Physical Layer:

HS-PDSCH	Number of processes	2
	Process memory size	Split equally among all processes
	Max Data Rate	Depending on UE category

6.11.4g Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.4g.1 Uplink

6.11.4g.1.1 Transport channel parameters

6.11.4g.1.1.1 Transport channel parameters for E-DCH

6.11.4g.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	Max data rate, bps	Depends on UE category and TTI
	UMD PDU header, bit	8
MAC	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-e/es header fixed part, bit	18
Layer 1	TrCH type	E-DCH
	TTI	10ms
	Coding type	TC
	CRC, bit	24

6.11.4g.1.1.1.2 Transport channel parameters for DCH

6.11.4g.1.1.1.2.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.4g.1.2 Physical channel parameters

6.11.4g.1.2.1 Physical channel parameters on E-PUCH

See clause 6.10.3.4.7.1.1.2.1

6.11.4g.1.2.2 Physical channel parameters for DPCH

See clause 6.10.3.4.1.2.1.2

6.11.4g.2 Downlink

6.11.4g.2.1 Transport channel parameters

6.11.4g.2.1.1 Transport channel parameters for HS-DSCH

6.11.4g.2.1.1.1 MAC-d flow parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	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	336
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH

	TTI	10 ms
	Coding type	TC
	CRC, bit	24
NOTE: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).		

6.11.4g.2.1.1.2 Transport channel parameters for DCH

6.11.4g.2.1.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.4g.2.1.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.4g.2.2 Physical channel parameters

6.11.4g.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

6.11.4g.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

6.11.4h Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] + DL: 3.4 kbps SRBs for DCCH on E-DCH and DCH for 3.84Mcps TDD

6.11.4h.1 Uplink

6.11.4h.1.1 Transport channel parameters

6.11.4h.1.1.1 Transport channel parameters for E-DCH

6.11.4h.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.3.4.7.2.1.1.1.2

6.11.4h.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4g.1.1.1.1.

6.11.4h.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4g.1.1.1.1.

6.11.4h.1.2 Physical channel parameters

6.11.4h.1.2.1 Physical channel parameters on E-PUCH

See clause 6.10.3.4.7.1.1.2.1.

6.11.4h.2 Downlink

6.11.4h.2.1 Transport channel parameters

6.11.4h.2.1.1 Transport channel parameters for HS-DSCH

6.11.4h.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4g.2.1.1.1.

6.11.4h.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4g.2.1.1.1.

6.11.4h.2.1.2 Transport channel parameters for DCH

6.11.4h.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.4h.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.4h.2.2 Physical channel parameters

6.11.4h.2.2.1 Physical channel parameters on DPCH

See clause 6.10.3.4.1.2.2.2.

6.11.4h.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.3.4.6.1.2.2.2.

6.11.4i Reference Radio Bearer configurations used in CPC testing

6.11.4i.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / UM PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.4i.1.1 Uplink

6.11.4i.1.1.1 Transport channel parameters

6.11.4i.1.1.1.1 Transport channel parameters for E-DCH

6.11.4i.1.1.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1.

6.11.4i.1.1.1.1.2 MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2

6.11. 4i.1.1.2 Physical channel parameters

6.11. 4i.1.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1

6.11. 4i.1.2 Downlink

6.11. 4i.1.2.1 Transport channel parameters

6.11. 4i.1.2.1.1 Transport channel parameters for HS-DSCH

6.11. 4i.1.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4c.2.1.1.1

6.11. 4i.1.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2.

6.11. 4i.1.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

6.11. 4i.1.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4j Reference Radio Bearer configurations used in Improved L2 testing

6.11.4j.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / UM PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.4j.1.1 Uplink

See clause 6.11.4e.1

6.11.4j.1.2 Downlink

6.11. 4j.1.2.1 Transport channel parameters

6.11. 4j.1.2.1.1 Transport channel parameters for HS-DSCH

6.11. 4j.1.2.1.1.1 MAC-d flow parameters for DL: [max bit rate depending on UE category] kbps / PS RAB

		Flexible RLC + MAC-ehs (Rel-7 and later releases)
Higher Layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	Flexible up to 12000
	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	Flexible
	MAC-hs Type	MAC-ehs
	MAC-hs/ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24
	Applicable modulation schemes	QPSK, 16QAM, 64QAM
	Applicable with MIMO	Yes
NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).		

6.11.4j.1.2.1.1.2 Transport channel parameters for DCH

6.11.4j.1.2.1.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4j.1.2.1.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.11.4j.1.2.2 Physical channel parameters

6.11.4j.1.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4j.1.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4j.2 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] with Flexible RLC and MAC-ehs SRBs for DCCH on E-DCH and HS-DSCH

6.11.4j.2.1 Uplink

See clause 6.10.2.4.6.1.1.

6.11.4j.2.1.2 Physical channel parameters

6.11.4j.2.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.11.4j.2.2 Downlink

6.11.4j.2.2.1 Transport channel parameters

6.11.4j.2.2.1.1 Transport channel parameters for HS-DSCH

6.11.4j.2.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1.

6.11.4j.2.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	Flexible up to 12000			
	Max data rate, bps	Depends on UE category (NOTE 1)			
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	N/A			
	MAC-d PDU size, bit	Flexible			
	MAC-hs Type	MAC-ehs			
	MAC-ehs header fixed part, bit	24			
Layer 1	TrCH type	HS-DSCH			
	TTI, ms	2 ms			
	Coding type	TC			
	CRC, bit	24			
	Applicable modulation schemes	QPSK, 16QAM, 64QAM			
	Applicable with MIMO	Yes			

6.11.4j.2.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

6.11.4j.2.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.10.2.4.5.1.2.2.2.

6.11.4k Reference Radio Bearer configurations used in Improved L2 UL testing

6.11.4k.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.4k.1.1 Uplink

6.11.4k.1.1.1 Transport channel parameters

6.11.4k.1.1.1.1 Transport channel parameters for E-DCH

6.11.4k.1.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1, alt 3.

6.11.4k.1.1.1.1.2 Transport channel parameters for DCH

6.11.4k.1.1.1.1.2.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1

6.11.4k.1.1.2 Physical channel parameters

6.11.4k.1.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1

6.11.4k.1.1.2.2 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.1.2

6.11.4k.1.2 Downlink

6.11.4k.1.2.1 Transport channel parameters

6.11.4k.1.2.1.1 Transport channel parameters for HS-DSCH

6.11.4k.1.2.1.1.1 MAC-d flow parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	Flexible up to 12000
	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	Flexible
	MAC-ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24
NOTE:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]).	

- 6.11.4k.1.2.1.2 Transport channel parameters for DCH
- 6.11.4k.4.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1.
- 6.11.4k.1.2.2 Physical channel parameters
- 6.11.4k.1.2.2.1 Physical channel parameters on DPCH
- See clause 6.10.2.4.5.1.2.
- 6.11.4k.1.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.10.2.4.5.1.2.2.2.
- 6.11.4k.2 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH**
- 6.11.4k.2.1 Uplink
- 6.11.4k.2.1.1 Transport channel parameters
- 6.11.4k.2.1.1.1 Transport channel parameters for E-DCH
- 6.11.4k.2.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH
- See clause 6.10.2.4.6.2.1.1.1.2, alt 2
- 6.11.4k.2.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.4c.1.1.1.1, alt 3
- 6.11.4k.2.1.2 Physical channel parameters
- 6.11.4k.2.1.2.1 Physical channel parameters on E-DPDCH
- See clause 6.10.2.4.6.1.1.2.1
- 6.11.4k.2.2 Downlink
- 6.11.4k.2.2.1 Transport channel parameters
- 6.11.4k.2.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.4k.2.2.1.1.1 MAC-d flow#0 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.4k.1.2.1.1.1
- 6.11.4k.2.2.1.1.2 MAC-d flow#1 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH
- See clause 6.10.2.4.6.3.2.1.1.2, alt 2.
- 6.11.4k.2.2.2 Physical channel parameters
- 6.11.4k.2.2.2.1 Physical channel parameters on DPCH
- The physical channel configuration shall use F-DPCH.

6.11.4k.2.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4k.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] with Flexible RLC and MAC-ehs SRBs for DCCH on E-DCH and HS-DSCH

6.11.4k.3.1 Uplink

6.11.4k.3.1.1 Transport channel parameters

6.11.4k.3.1.1.1 Transport channel parameters for E-DCH

6.11.4k.3.1.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1, alt 3.

6.11.4k.3.1.1.1.2 MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2, alt 2.

6.11.4k.3.2.1.2 Physical channel parameters

6.11.4k.3.2.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.11.4k.3.2.2 Downlink

6.11.4k.3.2.2.1 Transport channel parameters

6.11.4k.3.2.2.1.1 Transport channel parameters for HS-DSCH

6.11.4k.3.2.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.10.2.4.5.1.2.1.1.1, alt 3

6.11.4k.3.2.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2, alt 2.

6.11.4k.3.2.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

6.11.4k.3.2.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.10.2.4.5.1.2.2.2.

- 6.11.4k.4 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + 3.4 kbps SRBs for DCCH on E-DCH and DL DCH
- 6.11.4k.4.1 Uplink
- 6.11.4k.4.1.1 Transport channel parameters
- 6.11.4k.4.1.1.1 Transport channel parameters for E-DCH
- 6.11.4k.4.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH
- See clause 6.10.2.4.6.2.1.1.1.2, alt 2.
- 6.11.4k.4.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.4c.1.1.1.1, alt 3.
- 6.11.4k.4.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.4c.1.1.1.1, alt 3.
- 6.11.4k.4.1.1.1.4 MAC-d flow#4 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.4c.1.1.1.1, alt 3.
- 6.11.4k.4.1.2 Physical channel parameters
- 6.11.4k.4.1.2.1 Physical channel parameters on E-DPDCH
- See clause 6.10.2.4.6.1.1.2.1.
- 6.11.4k.4.2 Downlink
- 6.11.4k.4.2.1 Transport channel parameters
- 6.11.4k.4.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.4k.4.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.4k.1.2.1.1.1.
- 6.11.4k.4.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.4k.1.2.1.1.1.
- 6.11.4k.4.2.1.1.2 MAC-d flow#3 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.4k.2.1.1.1.
- 6.11.4k.4.2.1.2 Transport channel parameters for DCH
- 6.11.4k.4.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.10.2.4.1.2.2.1.1.

6.11.4k.4.2.1.2.2 TFCFS

See clause 6.10.2.4.1.2.2.1.2

6.11.4k.4.2.2 Physical channel parameters

6.11.4k.4.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4k.4.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4k.5 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.4k.5.1 Uplink

6.11.4k.5.1.1 Transport channel parameters

6.11.4k.5.1.1.1 Transport channel parameters for E-DCH

6.11.4k.5.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2, alt 2.

6.11.4k.5.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1, alt 3.

6.11.4k.5.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.4c.1.1.1.1, alt 3.

6.11.4k.5.1.2 Physical channel parameters

6.11.4k.5.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1.

6.11.4k.5.2 Downlink

6.11.4k.5.2.1 Transport channel parameters

6.11.4k.5.2.1.1 Transport channel parameters for HS-DSCH

6.11.4k.5.2.1.1.1 MAC-d flow#1 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2, alt 2.

6.11.4k.5.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4k.1.2.1.1.1.

6.11.4k.5.2.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.4k.1.2.1.1.1.

6.11.4k.5.2.2 Physical channel parameters

6.11.4k.5.2.2.1 Physical channel parameters on DPCH

See clause 6.10.2.4.1.2.2.2.

6.11.4k.5.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2.

6.11.4l Reference Radio Bearer configurations used in UL packet filtering testing

6.11.4l.1 Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.4l.1.1 Uplink

6.11.4l.1.1.1 Transport channel parameters

6.11.4l.1.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	DTCH	
	RLC mode	AM	AM	AM	
	Payload sizes, bit	320	320	320	
	Max data rate, bps	64000	64000	64 000	
	AMD PDU header, bit	16	16	16	
MAC	MAC header, bit	4	4	4	
	MAC multiplexing	3 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	340			
	TFS	TF0, bits	0x340		
		TF1, bits	1x340		
		TF2, bits	2x340		
		TF3, bits	3x340		
		TF4, bits	4x340		
	TTI, ms	20			
	Coding type	TC			
	CRC, bit	16			
	Max number of bits/TTI after channel coding	4 284			
	Uplink: Max number of bits/radio frame before rate matching	2 142			
	RM attribute	130 to 170			

6.11.4l.1.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1.

6.11.4l.1.1.1.3 TFCS

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

6.11.4l.1.1.2 Physical channel parameters

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

6.11.4l.1.2 Downlink

6.11.4l.1.2.1 Transport channel parameters

6.11.4l.1.2.1.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	DTCH	
	RLC mode	AM	AM	AM	
	Payload sizes, bit	320	320	320	
	Max data rate, bps	64000	64000	64 000	
	AMD PDU header, bit	16	16	16	
MAC	MAC header, bit	4	4	4	
	MAC multiplexing	3 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	340			
	TFS	TF0, bits	0x340		
		TF1, bits	1x340		
		TF2, bits	2x340		
		TF3, bits	3x340		
		TF4, bits	4x340		
	TTI, ms	20			
	Coding type	TC			
	CRC, bit	16			
	Max number of bits/TTI after channel coding	4 284			
RM attribute	130 to 170				

6.11.4l.1.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1.

6.11.4l.1.2.1.3 TFCS

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

6.11.4l.1.2.2 Physical channel parameters

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

6.11.5 Reference Radio Bearer configurations used in Radio Bearer testing for 1.28 Mcps TDD

6.11.5.1 RABs and signalling RBs

See clause 6.10.3.1.

6.11.5.2 Combinations of RABs and Signalling RBs

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

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

Combinations on DPCH

- 1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH.
- 1a) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (Multiframe).
- 2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 2a) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH (Multiframe).
- 3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH.
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 4a) Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL:(12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 5a) Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 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
- 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:28.8 DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 13) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14) Conversational / unknown / UL:32 DL:32 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 15) Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 16) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 17) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 18) Void.
- 19) Void.
- 20) Void.
- 21) Void.
- 22) Void.
- 23) Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23a) Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23b) Interactive or background / UL:16 DL:16 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23c) Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23d) Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.(20 msTTI)
- 24) Void.
- 25) Interactive or background / UL:32 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 26) Interactive or background / UL:64 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 27) Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 28) Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 29) Interactive or background / UL:64 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 30) Interactive or background / UL:144 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 31) Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 32) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 33) Interactive or background / UL:128 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 34) Interactive or background / UL:384 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 35) Interactive or background / UL:64 DL:2 048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 36) Void.
- 37) Void.

- 38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38a) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:0 DL:0 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38b) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38c) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38d) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38e) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:0 DL:0 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38f) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38g) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:16 DL:16 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38h) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38i) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 38j) Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:128 DL:2 048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 46) Void.
- 47) Void.
- 48) Void.
- 49) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 49a) Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 50) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51a) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51b) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:16 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 52) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 53) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 54) Void.
- 55) Void.
- 56) Interactive or background / UL:8 DL:8 kbps / PS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 57) Interactive or Background / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 58) Streaming / Unknown / UL:16 DL:64 kbps / CS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 59) Reserved for future use
- 60) Reserved for future use

- 61) Conversational / Unknown / UL:8 DL:8 kbps / CS RAB
+ Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 62) Interactive or background / UL:256 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 63) 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
- 64) 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
- 65) 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
- 66) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL: 128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 67) Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB
+ 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
- 68) 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
- 69) Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB
+ Streaming / unknown / UL:128 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
- 70) Interactive or background / UL:64 DL:64 kbps / PS 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

Combinations on PDSCH, SCCPCH, PUSCH and PRACH

- 1) Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL:16.8 DL: 16 kbps SRBs for SHCCH.
- 2) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.
- 3) Interactive or background / UL:64 DL:2 048 kbps / PS RAB
+ UL:3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.

Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

- 1) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
+ Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:16.8 kbps SRBs for CCCH and SHCCH
+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.

- 2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
 + UL:3.4 DL:3.4 kbps SRBs for DCCH
 + Interactive or background / UL:64 DL:384 kbps / PS RAB
 + UL:16.8 kbps SRBs for CCCH and SHCCH
 + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.
- 3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
 + UL:3.4 DL:3.4 kbps SRBs for DCCH
 + Interactive or background / UL:64 DL:2 048 kbps / PS RAB
 + UL:16.8 kbps SRBs for CCCH and SHCCH
 + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.

Combinations on SCCPCH

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

Combinations on PRACH

- 1) SRB for CCCH
 + SRBs for DCCH.
- 2) Interactive/Background 12.8 kbps PS RAB
 + SRB for CCCH
 + SRBs for DCCH.
- 3) Interactive/Background 12.8 kbps PS RAB
 + Interactive/Background 12.8 kbps PS RAB
 + SRB for CCCH
 + SRBs for DCCH.

Combinations on DPCH and HS-PDSCH

- 1) Interactive or background / UL:8 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

- 1a) Interactive or background / UL:8 (multiframe) DL: [max bit rate depending on UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH (multiframe) (REL-5)
- 2) Interactive or background / UL:16 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 2a) Interactive or background / UL:16(multiframe) DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)
- 3) Interactive or background / UL:32 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 3a) Interactive or background / UL:32(multiframe) DL: [max bit rate depending on UE category] / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)
- 4) Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 5) Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 6) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 7) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 8) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 9) Interactive or background / UL:64 DL: [bit rate depending on UE category] / PS RAB + Interactive or background / UL:64 DL: [bit rate depending on UE category] / PS RAB+UL:3.4 DL:3.4 kbps SRBs for DCCH
- 10) Conversational/Speech/UL:12.2 DL:12.2kbps/CS RAB + interactive or Background / UL:64 kbps DL: [bit rate depending on UE category]/PS RAB + interactive or Background / UL:64 kbps DL: [bit rate depending on UE category]/PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 11) Streaming/ UL:32 DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 12) Streaming/ UL:16 DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 13) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + interactive or Background/ UL:384 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 14) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:16 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 15) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:32 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 16) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:64 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH
- 17) Streaming/ UL:64 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

Combinations on HS-PDSCH and E-PUCH

- 1) Stand-alone UL: [max bit rate depending on UE category and TTI] DL:[max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

- 2) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 3) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH
- 4) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH
- 5) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 7) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH
- 8) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 9) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 10) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 11) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 12) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 13) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 15) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 16) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 17) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 18) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 16 kbps / PS RAB + Streaming or interactive or

background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

- 19) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 20) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 21) Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 16 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.3 Example of linkage between RABs and services

See clause 6.10.3.3.

6.11.5.4 Typical radio parameter sets

6.11.5.4.1 Combinations on DPCH

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

6.11.5.4.1.1.1 Uplink

6.11.5.4.1.1.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.1.1.1.1.

6.11.5.4.1.1.1.1.2 TFCS

See clause 6.10.3.4.1.1.1.1.2.

6.11.5.4.1.1.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1

6.11.5.4.1.1.2 Downlink

6.11.5.4.1.1.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.1.2.1.1.

6.11.5.4.1.1.2.1.2 TFCS

See clause 6.10.3.4.1.1.2.1.2.

6.11.5.4.1.1.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits

	SS / radio frame	2x2 bits
	Puncturing Limit	1

6.11.5.4.1.1a Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (multiframe)

6.11.5.4.1.1a.1 Uplink

6.11.5.4.1.1a.1.1 Transport channel parameters

6.11.5.4.1.1a.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

See clause 6.10.3.4.1.1a.1.1.1.

6.11.5.4.1.1a.1.1.2 TFCS

See clause 6.10.3.4.1.1a.1.1.2.

6.11.5.4.1.1a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCl code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFC in the TFCS is not configured, the TFCl code word will be 4 bit.		

6.11.5.4.1.1a.2 Downlink

6.11.5.4.1.1a.2.1 Transport channel parameters

6.11.5.4.1.1a.2.1.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

See clause 6.10.3.4.1.1a.2.1.1.

6.11.5.4.1.1a.2.1.2 TFCS

See clause 6.10.3.4.1.1a.2.1.2.

6.11.5.4.1.1a.2.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCl code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFC in the TFCS is not configured, the TFCl code word will be 4 bit.		

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

6.11.5.4.1.2.1 Uplink

6.11.5.4.1.2.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.2.1.1.2 TFCS

See clause 6.10.3.4.1.2.1.1.2.

6.11.5.4.1.2.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

6.11.5.4.1.2.2 Downlink

6.11.5.4.1.2.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.2.2.1.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.5.4.1.2.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	160 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

6.11.5.4.1.2a Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH (multiframe)

6.11.5.4.1.2a.1 Uplink

6.11.5.4.1.2a.1.1 Transport channel parameters

6.11.5.4.1.2a.1.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH (multiframe)

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	20			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			

	Max number of bits/radio frame before rate matching	516
	RM attribute	155 to 165
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UTRAN.		

6.11.5.4.1.2a.1.1.2 TFCS

See clause 6.10.3.4.1.2.1.1.2.

6.11.5.4.1.2a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	336 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bit
	SS / radio frame	2x2 bit
	Puncturing Limit	0.64
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

6.11.5.4.1.2a.2 Downlink

6.11.5.4.1.2a.2.1 Transport channel parameters

6.11.5.4.1.2a.2.1.1 Transport channel parameters for DL:3.4 kbps SRBs for DCCH (multiframe)

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0, 148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	20			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	516			
	RM attribute	155 to 165			
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.					

6.11.5.4.1.2a.2.1.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.5.4.1.2a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	336 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits

	Puncturing Limit	0.64
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

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

6.11.5.4.1.3.1 Uplink

6.11.5.4.1.3.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.3.1.1.1.

6.11.5.4.1.3.1.1.2 TFCS

See clause 6.10.3.4.1.3.1.1.2.

6.11.5.4.1.3.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	336 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bit
	SS / radio frame	2x2 bit
	Puncturing Limit	0.64
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

6.11.5.4.1.3.2 Downlink

6.11.5.4.1.3.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.3.2.1.1.

6.11.5.4.1.3.2.1.2 TFCS

See clause 6.10.3.4.1.3.2.1.2.

6.11.5.4.1.3.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	336 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64
NOTE: In case the first TFCS is not configured, the TFCI code word will be 4 bit.		

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

6.11.5.4.1.4.1 Uplink

6.11.5.4.1.4.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.4.1.1.3 TFCS

See clause 6.10.3.4.1.4.1.1.3.

6.11.5.4.1.4.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.48	

6.11.5.4.1.4.2 Downlink

6.11.5.4.1.4.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.4.2.1.3 TFCS

See clause 6.10.3.4.1.4.2.1.3.

6.11.5.4.1.4.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.48	

6.11.5.4.1.4a Conversational / speech / UL: 12.2 7.95 5.9 4.75 DL:12.2 7.95 5.9 4.75 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.4a.1 Uplink

6.11.5.4.1.4a.1.1 Transport channel parameters

6.11.5.4.1.4a.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.4a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.4a.1.1.3 TFCS

See clause 6.10.3.4.1.4a.1.1.3.

6.11.5.4.1.4a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots

	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.5.4.1.4a.2 Downlink

6.11.5.4.1.4a.2.1 Transport channel parameters

6.11.5.4.1.4a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.4a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.4a.2.1.3 TFCS

See clause 6.10.3.4.1.4a.1.2.1.3.

6.11.5.4.1.4a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

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

6.11.5.4.1.5.1 Uplink

6.11.5.4.1.5.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.5.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.5.1.1.3 TFCS

See clause 6.10.3.4.1.5.1.1.3.

6.11.5.4.1.5.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.5.2 Downlink

6.11.5.4.1.5.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.5.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.5.2.1.3 TFCS

See clause 6.10.3.4.1.5.2.1.3.

6.11.5.4.1.5.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.5a Conversational / speech / UL:10.2 6.7 5.9 4.75 DL:10.2 6.7 5.9 4.75 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.5a.1 Uplink

6.11.5.4.1.5a.1.1 Transport channel parameters

6.11.5.4.1.5a.1.1.1 Transport channel parameters for Conversational / speech / UL:10.2 6.7 5.9 4.75 kbps / CS RAB

See clause 6.10.3.4.1.5a.1.1.1.

6.11.5.4.1.5a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.5a.1.1.3 TFCS

See clause 6.10.3.4.1.5a.1.1.3.

6.11.5.4.1.5a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.5a.2 Downlink

6.11.5.4.1.5a.2.1 Transport channel parameters

6.11.5.4.1.5a.2.1.1 Transport channel parameters for Conversational / speech / DL: 10.2 6.7 5.9 4.75 kbps / CS RAB

See clause 6.10.3.4.1.5a.2.1.1.

6.11.5.4.1.5a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.5a.2.1.3 TFCS

See clause 6.10.3.4.1.5a.2.1.3.

6.11.5.4.1.5a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.6.1 Uplink

6.11.5.4.1.6.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.6.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.6.1.1.3 TFCS

See clause 6.10.3.4.1.6.1.1.3.

6.11.5.4.1.6.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

6.11.5.4.1.6.2 Downlink

6.11.5.4.1.6.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.6.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.6.2.1.3 TFCS

See clause 6.10.3.4.1.6.2.1.3.

6.11.5.4.1.6.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

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

6.11.5.4.1.7.1 Uplink

6.11.5.4.1.7.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.7.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.7.1.1.3 TFCS

See clause 6.10.3.4.1.7.1.1.3.

6.11.5.4.1.7.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit		0.64

6.11.5.4.1.7.2 Downlink

6.11.5.4.1.7.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.7.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.7.2.1.3 TFCS

See clause 6.10.3.4.1.7.2.1.3.

6.11.5.4.1.7.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit		0.64

6.11.5.4.1.7a 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:3.4 kbps SRBs for DCCH

6.11.5.4.1.7a.1 Uplink

6.11.5.4.1.7a.1.1 Transport channel parameters

6.11.5.4.1.7a.1.1.1 Transport channel parameters for Conversational / speech / UL:7.4 6.7 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.7a.1.1.1.

6.11.5.4.1.7a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.7a.1.1.3 TFCS

See clause 6.10.3.4.1.7a.1.1.3.

6.11.5.4.1.7a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64

6.11.5.4.1.7a.2 Downlink

6.11.5.4.1.7a.2.1 Transport channel parameters

6.11.5.4.1.7a.2.1.1 Transport channel parameters for Conversational / speech / DL:7.4 6.7 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.7a.2.1.1.

6.11.5.4.1.7a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.7a.2.1.3 TFCS

See clause 6.10.3.4.1.7a.2.1.3.

6.11.5.4.1.7a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64

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

6.11.5.4.1.8.1 Uplink

6.11.5.4.1.8.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.8.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.8.1.1.3 TFCS

See clause 6.10.3.4.1.8.1.1.3.

6.11.5.4.1.8.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.68	

6.11.5.4.1.8.2 Downlink

6.11.5.4.1.8.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.8.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.8.2.1.3 TFCS

See clause 6.10.3.4.1.8.2.1.3.

6.11.5.4.1.8.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.68	

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

6.11.5.4.1.9.1 Uplink

6.11.5.4.1.9.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.9.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.9.1.1.3 TFCS

See clause 6.10.3.4.1.9.1.1.3.

6.11.5.4.1.9.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.72	

6.11.5.4.1.9.2 Downlink

6.11.5.4.1.9.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.9.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.9.2.1.3 TFCS

See clause 6.10.3.4.1.9.2.1.3.

6.11.5.4.1.9.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72

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

6.11.5.4.1.10.1 Uplink

6.11.5.4.1.10.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.10.1.1.1.

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

See clause 6.10.3.4.1.1.1.1.1.

6.11.5.4.1.10.1.1.3 TFCS

See clause 6.10.3.4.1.10.1.1.3.

6.11.5.4.1.10.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.96

6.11.5.4.1.10.2 Downlink

6.11.5.4.1.10.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.10.2.1.1.

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

See clause 6.10.3.4.1.1.2.1.1.

6.11.5.4.1.10.2.1.3 TFCS

See clause 6.10.3.4.1.10.2.1.3.

6.11.5.4.1.10.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.96

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

6.11.5.4.1.11.1 Uplink

6.11.5.4.1.11.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.11.1.1.1.

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

See clause 6.10.3.4.1.1.1.1.1.

6.11.5.4.1.11.1.1.3 TFCS

See clause 6.10.3.4.1.11.1.1.3.

6.11.5.4.1.11.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1

6.11.5.4.1.11.2 Downlink

6.11.5.4.1.11.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.11.2.1.1.

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

See clause 6.10.3.4.1.1.2.1.1.

6.11.5.4.1.11.2.1.3 TFCS

See clause 6.10.3.4.1.11.2.1.3.

6.11.5.4.1.11.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits

	SS / radio frame	2x2 bits
	Puncturing Limit	1

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

6.11.5.4.1.12.1 Uplink

6.11.5.4.1.12.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.12.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.12.1.1.3 TFCS

See clause 6.10.3.4.1.12.1.1.3.

6.11.5.4.1.12.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.12.2 Downlink

6.11.5.4.1.12.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.12.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.12.2.1.3 TFCS

See clause 6.10.3.4.1.12.2.1.3.

6.11.5.4.1.12.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.13.1 Uplink

6.11.5.4.1.13.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.13.1.1.3 TFCS

See clause 6.10.3.4.1.13.1.1.3.

6.11.5.4.1.13.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.13.2 Downlink

6.11.5.4.1.13.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.13.2.1.3 TFCS

See clause 6.10.3.4.1.13.2.1.3.

6.11.5.4.1.13.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.14.1 Uplink

6.11.5.4.1.14.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.14.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.14.1.1.3 TFCS

See clause 6.10.3.4.1.14.1.1.3.

6.11.5.4.1.14.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.44

6.11.5.4.1.14.2 Downlink

6.11.5.4.1.14.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.14.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.14.2.1.3 TFCS

See clause 6.10.3.4.1.14.2.1.3.

6.11.5.4.1.14.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.44

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

6.11.5.4.1.15.1 Uplink

6.11.5.4.1.15.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.15.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.15.1.1.3 TFCS

See clause 6.10.3.4.1.15.1.1.3.

6.11.5.4.1.15.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1

6.11.5.4.1.15.2 Downlink

6.11.5.4.1.15.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.15.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.15.2.1.3 TFCS

See clause 6.10.3.4.1.15.2.1.3.

6.11.5.4.1.15.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 3 code x 2 time slots
	Max. Number of data bits / radio frame	504 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.76

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

6.11.5.4.1.16.1 Uplink

6.11.5.4.1.16.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.16.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.16.1.1.3 TFCS

See clause 6.10.3.4.1.16.1.1.3.

6.11.5.4.1.16.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.16.2 Downlink

6.11.5.4.1.16.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.16.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.16.2.1.3 TFCS

See clause 6.10.3.4.1.16.2.1.3.

6.11.5.4.1.16.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

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

6.11.5.4.1.17.1 Uplink

6.11.5.4.1.17.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.17.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.17.1.1.3 TFCS

See clause 6.10.3.4.1.17.1.1.3.

6.11.5.4.1.17.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.68

6.11.5.4.1.17.2 Downlink

6.11.5.4.1.17.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.17.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.17.2.1.3 TFCS

See clause 6.10.3.4.1.17.2.1.3.

6.11.5.4.1.17.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits

	SS / radio frame	2x2 bits
	Puncturing Limit	0.68

- 6.11.5.4.1.18 Void
- 6.11.5.4.1.19 Void
- 6.11.5.4.1.20 Void
- 6.11.5.4.1.21 Void
- 6.11.5.4.1.22 Void
- 6.11.5.4.1.23 Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.5.4.1.23.1 Uplink
- 6.11.5.4.1.23.1.1 Transport channel parameters
- 6.11.5.4.1.23.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB
See clause 6.10.3.4.1.23.1.1.1.
- 6.11.5.4.1.23.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
See clause 6.10.3.4.1.2.1.1.1.
- 6.11.5.4.1.23.1.1.3 TFCS
See clause 6.10.3.4.1.23.1.1.3.
- 6.11.5.4.1.23.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 4 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	680bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48 (alt. 0.44)

- 6.11.5.4.1.23.2 Downlink
- 6.11.5.4.1.23.2.1 Transport channel parameters
- 6.11.5.4.1.23.2.1.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB
See clause 6.10.3.4.1.23.2.1.1.
- 6.11.5.4.1.23.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
See clause 6.10.3.4.1.2.2.1.1.
- 6.11.5.4.1.23.2.1.3 TFCS
See clause 6.10.3.4.1.23.2.1.3.
- 6.11.5.4.1.23.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 codes x 2 time slots
	Max. Number of data bits/radio frame	336 bits
	TFCI code word / radio frame	8 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits

	Puncturing Limit	0.76
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6.11.5.4.1.23a Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.23a.1 Uplink

6.11.5.4.1.23a.1.1 Transport channel parameters

6.11.5.4.1.23a.1.1.1 Transport channel parameters for Interactive or background / UL:8kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.11.5.4.1.23a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.23a.1.1.3 TFCS

See clause 6.10.3.4.1.23a.1.1.3.

6.11.5.4.1.23a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCl code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.68)

6.11.5.4.1.23a.2 Downlink

See clause 6.11.5.4.1.23.2.

6.11.5.4.1.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.23b.1 Uplink

6.11.5.4.1.23b.1.1 Transport channel parameters

6.11.5.4.1.23b.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.1.1.1.

6.11.5.4.1.23b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.23b.1.1.3 TFCS

See clause 6.10.3.4.1.23b.1.1.3.

6.11.5.4.1.23b.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	688 bits
	TFCl code word / radio frame	16bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.92 alt (0.84)

6.11.5.4.1.23b.2 Downlink

6.11.5.4.1.23b.2.1 Transport channel parameters

6.11.5.4.1.23b.2.1.1 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.2.1.1.

6.11.5.4.1.23b.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.23b.2.1.3 TFCS

See clause 6.10.3.4.1.23b.2.1.3.

6.11.5.4.1.23b.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 3 code x 2 time slots
	Max. Number of data bits / radio rame	512 bits
	TFCl code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.68	

6.11.5.4.1.23c Interactive or background / UL:32 DL32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.23c.1 Uplink

6.11.5.4.1.23c.1.1 Transport channel parameters

6.11.5.4.1.23c.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23c.1.1.1.

6.11.5.4.1.23c.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.23c.1.1.3 TFCS

See clause 6.10.3.4.1.23c.1.1.3.

6.11.5.4.1.23c.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 4 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	680bits
	TFCl code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.48 (alt 0.44)	

6.11.5.4.1.23c.2 Downlink

6.11.5.4.1.23c.2.1 Transport channel parameters

6.11.5.4.1.23c.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23c.2.1.1.

6.11.5.4.1.23c.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.23c.2.1.3 TFCS

See clause 6.10.3.4.1.23c.2.1.3.

6.11.5.4.1.23c.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits/radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.5.4.1.23d Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.23d.1 Uplink

6.11.5.4.1.23d.1.1 Transport channel parameters

6.11.5.4.1.23d.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.1.1.1.

6.11.5.4.1.23d.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.23d.1.1.3 TFCS

See clause 6.10.3.4.1.23d.1.1.3.

6.11.5.4.1.23d.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 4 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48 (alt. 0.44)

6.11.5.4.1.23d.2 Downlink

6.11.5.4.1.23d.2.1 Transport channel parameters

6.11.5.4.1.23d.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

6.11.5.4.1.23d.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.23d.2.1.3 TFCS

See clause 6.10.3.4.1.23d.2.1.3.

6.11.5.4.1.23d.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits/radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

- 6.11.5.4.1.24 Void.
- 6.11.5.4.1.25 Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.5.4.1.25.1 Uplink
- See clause 6.11.5.4.1.23.1.
- 6.11.5.4.1.25.2 Downlink
- 6.11.5.4.1.25.2.1 Transport channel parameters
- 6.11.5.4.1.25.2.1.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB
- See clause 6.10.3.4.1.25.2.1.1.
- 6.11.5.4.1.25.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH
- See clause 6.10.3.4.1.2.2.1.1.
- 6.11.5.4.1.25.2.1.3 TFCS
- See clause 6.10.3.4.1.25.2.1.3.
- 6.11.5.4.1.25.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit/ radio frame	0.56

- 6.11.5.4.1.26 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.5.4.1.26.1 Uplink
- 6.11.5.4.1.26.1.1 Transport channel parameters
- 6.11.5.4.1.26.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB
- See clause 6.10.3.4.1.26.1.1.1.
- 6.11.5.4.1.26.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.10.3.4.1.2.1.1.1.
- 6.11.5.4.1.26.1.1.3 TFCS
- See clause 6.10.3.4.1.26.1.1.3.
- 6.11.5.4.1.26.1.2 Physical channel parameters

DPCH Uplink		Physical 1	Physical 2
	Modulation	QPSK	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots	SF1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits	2 792 bits
	TFCI code word / radio frame	16 bits	16 bits
	TPC / radio frame	2x2 bits	2x2 bits
	SS / radio frame	2x2 bits	2x2 bits
	Puncturing Limit	0.56 (alt 0.48)	1

6.11.5.4.1.26.2 Downlink

See clause 6.11.5.4.1.25.2.

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

6.11.5.4.1.27.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.1.27.2 Downlink

6.11.5.4.1.27.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.27.2.1.3 TFCS

See clause 6.10.3.4.1.27.2.1.3.

6.11.5.4.1.27.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 codes x 2 time slots
	Max. Number of data bits/radio frame	3 144 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

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

6.11.5.4.1.28.1 Uplink

6.11.5.4.1.28.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.28.1.1.3 TFCS

See clause 6.10.3.4.1.28.1.1.3.

6.11.5.4.1.28.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 codes x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

6.11.5.4.1.28.2 Downlink

See clause 6.11.5.4.1.27.2.

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

6.11.5.4.1.29.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.1.29.2 Downlink

6.11.5.4.1.29.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.29.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.29.2.1.3 TFCS

See clause 6.10.3.4.1.29.2.1.3.

6.11.5.4.1.29.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 4 time slots
	Max. Number of data bits/radio frame	3 144 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.30.1 Uplink

6.11.5.4.1.30.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.30.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.30.1.1.3 TFCS

See clause 6.10.3.4.1.30.1.1.3.

6.11.5.4.1.30.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	(SF1 x 1 code x 2 time slots) + (SF2 x 1 code x 2 time slots)	SF1 x 1code x 2 time slots
	Max. Number of data bits/radio frame	4 200 bits	4 188 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.72 (alt 0.64)	0.72 (alt 0.64)

6.11.5.4.1.30.2 Downlink

See clause 6.11.5.4.1.29.2.

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

6.11.5.4.1.31.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.1.31.2 Downlink

6.11.5.4.1.31.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.31.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.31.2.1.3 TFCS

See clause 6.10.3.4.1.31.2.1.3.

6.11.5.4.1.31.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	5 608 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

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

6.11.5.4.1.32.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.1.32.2 Downlink

6.11.5.4.1.32.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.32.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.32.2.1.3 TFCS

See clause 6.10.3.4.1.32.2.1.3.

6.11.5.4.1.32.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 6 time slots	SF1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	8 424 bits	8 412 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits

	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.64	0.64

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

6.11.5.4.1.33.1 Uplink

See clause 6.11.5.4.1.28.1.

6.11.5.4.1.33.2 Downlink

See clause 6.11.5.4.1.32.2.

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

6.11.5.4.1.34.1 Uplink

6.11.5.4.1.34.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.34.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.34.1.1.3 TFCS

See clause 6.10.3.4.1.34.1.1.3.

6.11.5.4.1.34.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF 1 x 1 code x 6 time slots	SF 1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	8 424 bits	8 412 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.64	0.64

6.11.5.4.1.34.2 Downlink

See clause 6.11.5.4.1.32.2.

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

6.11.5.4.1.35.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.1.35.2 Downlink

6.11.5.4.1.35.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	1 704
	Max data rate, bps	2 048 000
	RLC header, bit	16

MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	1720	
	TFS	TF0, bits	0x1720
		TF1, bits	1x1720
		TF2, bits	2x1720
		TF3, bits	4x1720
		TF4, bits	8x1720
		TF5, bits	12x1720
		TF6, bits	N/A (alt. 16x1720)
		TF7, bits	N/A (alt. 20x1720)
	TF8, bits	N/A (alt. 24x1720)	
	TTI, ms	10 (alt. 20)	
	Coding type	No coding	
	CRC, bit	24	
Max number of bits/TTI after channel coding	20 928 (alt. 41 856)		
Max number of bits/radio frame before rate matching	20 928 (alt. 20 928)		
RM attribute	130 to 170		

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.35.2.1.3 TFCS

TFCS size	12 (alt.18)
TFCS	(2 048 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))

6.11.5.4.1.35.2.2 Physical channel parameters

DPCH Downlink	Modulation	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 10 time slots
	Max. Number of data bits/radio frame	21 084 bits
	TFCI code word / radio frame	24 bits
	TPC / radio frame	2x3 bits
	SS / radio frame	2x3 bits
	Puncturing Limit	1

6.11.5.4.1.36 Void

6.11.5.4.1.37 Void

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

6.11.5.4.1.38.1 Uplink

6.11.5.4.1.38.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.23.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38.1.1.4 TFCS

See clause 6.10.3.4.1.38.1.1.4.

6.11.5.4.1.38.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.68)

6.11.5.4.1.38.2 Downlink

6.11.5.4.1.38.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38.2.1.4 TFCS

See clause 6.10.3.4.1.38.2.1.4.

6.11.5.4.1.38.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 3 codes x 2 time slots
	Max. Number of data bits/radio frame	504 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.44

6.11.5.4.1.38a 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

6.11.5.4.1.38a.1 Uplink

6.11.5.4.1.38a.1.1 Transport channel parameters

6.11.5.4.1.38a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.38a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.1.1.2.

6.11.5.4.1.38a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38a.1.1.4 TFCS

See clause 6.10.3.4.1.38a.1.1.4.

6.11.5.4.1.38a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.5.4.1.38a.2 Downlink

6.11.5.4.1.38a.2.1 Transport channel parameters

6.11.5.4.1.38a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.1.38a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.2.1.2.

6.11.5.4.1.38a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38a.2.1.4 TFCS

See clause 6.10.3.4.1.38a.2.1.4.

6.11.5.4.1.38a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.2.5.1.38b Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.38b.1 Uplink

6.11.5.4.1.38b.1.1 Transport channel parameters

6.11.5.4.1.38b.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.38b.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.11.5.4.1.38b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38b.1.1.4 TFCS

See clause 6.10.3.4.1.38b.1.1.4.

6.11.5.4.1.38b.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64 (alt. 0.60)

6.11.5.4.1.38b.2 Downlink

6.11.5.4.1.38b.2.1 Transport channel parameters

6.11.5.4.1.38b.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.1.38b.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.11.5.4.1.38b.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38b.2.1.4 TFCS

See clause 6.10.3.4.1.38b.2.1.4.

6.11.5.4.1.38b.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64

6.11.5.4.1.38c Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.38c.1 Uplink

6.11.5.4.1.38c.1.1 Transport channel parameters

6.11.5.4.1.38c.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.38c.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.1.1.1.

6.11.5.4.1.38c.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38c.1.1.4 TFCS

See clause 6.10.3.4.1.38c.1.1.4.

6.11.5.4.1.38c.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
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	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.64) for TFCS size=18 0.80 (alt 0.72) for TFCS size=17

6.11.5.4.1.38c.2 Downlink

6.11.5.4.1.38c.2.1 Transport channel parameters

6.11.5.4.1.38c.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.1.38c.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

6.11.5.4.1.38c.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38c.2.1.4 TFCS

See clause 6.10.3.4.1.38c.2.1.4.

6.11.5.4.1.38c.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.64)

6.11.5.4.1.38d Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.38d.1 Uplink

6.11.5.4.1.38d.1.1 Transport channel parameters

6.11.5.4.1.38d.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.38d.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.10.3.4.1.38d.1.1.2.

6.11.5.4.1.38d.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38d.1.1.4 TFCS

See clause 6.10.3.4.1.38d.1.1.4.

6.11.5.4.1.38d.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK	8PSK
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	Codes and time slots / radio frame	(SF1 x 1 code x 2 time slots) + (SF2 x 1 code x 2 time slots)	SF1 x 1code x 2 time slots
	Max. Number of data bits/radio frame	4 200 bits	4 188 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.72 (alt 0.64)	0.72 (alt 0.64)

6.11.5.4.1.38d.2 Downlink

6.11.5.4.1.38d.2.1 Transport channel parameters

6.11.5.4.1.38d.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.1.38d.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.10.3.4.1.38d.2.1.2.

6.11.5.4.1.38d.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38d.2.1.4 TFCS

See clause 6.10.3.4.1.38d.2.1.4.

6.11.5.4.1.38d.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 4 time slots
	Max. Number of data bits/radio frame	3 144 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.38e Conversational / speech / UL: 12.2 7.95 5.9 4.75 DL:12.2 7.95 5.9 4.75 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.38e.1 Uplink

6.11.5.4.1.38e.1.1 Transport channel parameters

6.11.5.4.1.38e.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.38e.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.1.1.2.

6.11.5.4.1.38e.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38e.1.1.4 TFCS

See clause 6.10.3.4.1.38e.1.1.4.

6.11.5.4.1.38e.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.5.4.1.38e.2 Downlink

6.11.5.4.1.38e.2.1 Transport channel parameters

6.11.5.4.1.38e.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38e.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.3.4.1.38a.2.1.2.

6.11.5.4.1.38e.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38e.2.1.4 TFCS

See clause 6.10.3.4.1.38e.2.1.4.

6.11.5.4.1.38e.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

6.11.5.4.1.38f 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

6.11.5.4.1.38f.1 Uplink

6.11.5.4.1.38f.1.1 Transport channel parameters

6.11.5.4.1.38f.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.38f.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.11.5.4.1.38f.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38f.1.1.4 TFCS

See clause 6.10.3.4.1.38f.1.1.4.

6.11.5.4.1.38f.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64 (alt 0.60)

6.11.5.4.1.38f.2 Downlink

6.11.5.4.1.38f.2.1 Transport channel parameters

6.11.5.4.1.38f.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38f.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.11.5.4.1.38f.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38f.2.1.4 TFCS

See clause 6.10.3.4.1.38f.2.1.4.

6.11.5.4.1.38f.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64

6.11.5.4.1.38g 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

6.11.5.4.1.38g.1 Uplink

6.11.5.4.1.38g.1.1 Transport channel parameters

6.11.5.4.1.38g.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.38g.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.1.1.1.

6.11.5.4.1.38g.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38g.1.1.4 TFCS

See clause 6.10.3.4.1.38g.1.1.4.

6.11.5.4.1.38g.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1 368 bits (alt. 1 384 bits)
	TFCI code word / radio frame	32 bits (alt. 16 bits)
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.96 (alt 1.0)
NOTE: There are 32 bit and 16 bit TFCIs for the two cases.		

6.11.5.4.1.38g.2 Downlink

6.11.5.4.1.38g.2.1 Transport channel parameters

6.11.5.4.1.38g.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38g.2.1.2 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.2.1.1.

6.11.5.4.1.38g.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38g.2.1.4 TFCS

See clause 6.10.3.4.1.38g.2.1.4.

6.11.5.4.1.38g.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 368 bits
	TFCI code word / radio frame	32 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	1.0

6.11.5.4.1.38h 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

6.11.5.4.1.38h.1 Uplink

6.11.5.4.1.38h.1.1 Transport channel parameters

6.11.5.4.1.38h.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.38h.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.1.1.1.

6.11.5.4.1.38h.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38h.1.1.4 TFCS

See clause 6.10.3.4.1.38h.1.1.4.

6.11.5.4.1.38h.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	1 368 bits
	TFCI code word / radio frame	32 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.72 (alt 0.64)	

6.11.5.4.1.38h.2 Downlink

6.11.5.4.1.38h.2.1 Transport channel parameters

6.11.5.4.1.38h.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38h.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

6.11.5.4.1.38h.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38h.2.1.4 TFCS

See clause 6.10.3.4.1.38h.2.1.4.

6.11.5.4.1.38h.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 368 bits
	TFCI code word / radio frame	32 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.72	

6.11.5.4.1.38i 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

6.11.5.4.1.38i.1 Uplink

6.11.5.4.1.38i.1.1 Transport channel parameters

6.11.5.4.1.38i.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.38i.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.10.3.4.1.26.1.1.1.

6.11.5.4.1.38i.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.38i.1.1.4 TFCS

See clause 6.10.3.4.1.38i.1.1.4.

6.11.5.4.1.38i.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	(SF1 x 1 code x 2 time slots) + (SF2 x 1 code x 2 time slots)	SF1 x 1code x 2 time slots
Max. Number of data bits/radio frame	4 184 bits	4 164 bits	4 164 bits
TFCI code word / radio frame	32 bits	48 bits	48 bits
TPC / radio frame	2x2 bits	2x3 bits	2x3 bits
SS / radio frame	2x2 bits	2x3 bits	2x3 bits
Puncturing Limit	1	1	1

6.11.5.4.1.38i.2 Downlink

6.11.5.4.1.38i.2.1 Transport channel parameters

6.11.5.4.1.38i.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38i.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.10.3.4.1.25.2.1.1.

6.11.5.4.1.38i.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38i.2.1.4 TFCS

See clause 6.10.3.4.1.38i.2.1.4.

6.11.5.4.1.38i.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 4 time slots
Max. Number of data bits/radio frame	3 128 bits	
TFCI code word / radio frame	32 bits	
TPC / radio frame	2x2 bits	
SS / radio frame	2x2 bits	
Puncturing Limit	1	

6.11.5.4.1.38j 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

6.11.5.4.1.38j.1 Uplink

See clause 6.11.5.4.1.38i.1.

6.11.5.4.1.38j.2 Downlink

6.11.5.4.1.38j.2.1 Transport channel parameters

6.11.5.4.1.38j.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 7.95 5.9 4.75 / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.38j.2.1.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See clause 6.10.3.4.1.27.2.1.1.

6.11.5.4.1.38j.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.38j.2.1.4 TFCS

See clause 6.10.3.4.1.38j.2.1.4.

6.11.5.4.1.38j.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 4 time slots
	Max. Number of data bits/radio frame	3 128 bits
	TFCI code word / radio frame	32 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

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

6.11.5.4.1.39.1 Uplink

See clause 6.11.5.4.1.38.1.

6.11.5.4.1.39.2 Downlink

6.11.5.4.1.39.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.25.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.39.2.1.4 TFCS

See clause 6.10.3.4.1.39.2.1.4.

6.11.5.4.1.39.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 10 codes x 2 time slots
	Max. Number of data bits/radio frame	1 736 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

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

6.11.5.4.1.40.1 Uplink

6.11.5.4.1.40.1.1 Transport channel parameters

See clause 6.10.3.4.1.40.1.1.

6.11.5.4.1.40.1.2 Physical channel parameters

6.11.5.4.1.40.1.2.1 Physical channel parameters (one CCTrCH case)

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x 2 time slots

	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.92 (alt. 0.84)

6.11.5.4.1.40.1.2.2 Physical channel parameters (two CCTrCH case)

6.11.5.4.1.40.1.2.2.1 Physical channel parameters (conversational + SRB)

See clause 6.11.5.4.1.4.1.2.

6.11.5.4.1.40.1.2.2.2 Physical channel parameters (Interactive or background)

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64 (alt. 0.56)

6.11.5.4.1.40.2 Downlink

6.11.5.4.1.40.2.1 Transport channel parameters

See clause 6.10.3.4.1.40.2.1.

6.11.5.4.1.40.2.2 Physical channel parameters

6.11.5.4.1.40.2.2.1 Physical channel parameters (one CCTrCH)

See clause 6.11.5.4.1.39.2.2.

6.11.5.4.1.40.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.5.4.1.40.2.2.2.1 Physical channel parameters (conversational + SRB)

See clause 6.11.5.4.1.4.2.2.

6.11.5.4.1.40.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.64

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

6.11.5.4.1.41.1 Uplink

See clause 6.11.5.4.1.40.1.

6.11.5.4.1.41.2 Downlink

6.11.5.4.1.41.2.1 Transport channel parameters

See clause 6.10.3.4.1.41.2.1.

6.11.5.4.1.41.2.2 Physical channel parameters

6.11.5.4.1.41.2.2.1 Physical channel parameters (one CCTrCH case)

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 4 time slots	SF 16 x 12 codes x 2 time slots
Max. Number of data bits/radio frame	3 144 bits	3 132 bits	
TFCI code word / radio frame	16 bits	24 bits	
TPC / radio frame	2x2 bits	2x3 bits	
SS / radio frame	2x2 bits	2x3 bits	
Puncturing Limit	0.60	0.60	

6.11.5.4.1.41.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.5.4.1.41.2.2.2.1 Physical channel parameters (conversational + SRB)

See clause 6.11.5.4.1.4.2.2.

6.11.5.4.1.41.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots	SF 16 x 11 codes x 2 time slots
Max. Number of data bits/radio frame	2 792 bits	2868 bits	
TFCI code word / radio frame	16 bits	24 bits	
TPC / radio frame	2x2 bits	2x3 bits	
SS / radio frame	2x2 bits	2x3 bits	
Puncturing Limit	0.64	0.64	

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

6.11.5.4.1.42.1 Uplink

6.11.5.4.1.42.1.1 Transport channel parameters

See clause 6.10.3.4.1.42.1.1.

6.11.5.4.1.42.1.2 Physical channel parameters

See clause 6.10.3.4.1.40.1.2.1.

6.11.5.4.1.42.2 Downlink

6.11.5.4.1.42.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.31.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.42.2.1.4 TFCS

See clause 6.10.3.4.1.42.2.1.4.

6.11.5.4.1.42.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 6 time slots	SF1 x 1 code x 4 time slots
Max. Number of data bits/radio frame	8 408 bits	8 388 bits	
TFCI code word / radio frame	32 bits	48 bits	
TPC / radio frame	2x2 bits	2x3 bits	

	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.80	0.80

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

6.11.5.4.1.43.1 Uplink

See clause 6.11.5.4.1.40.1.

6.11.5.4.1.43.2 Downlink

6.11.5.4.1.43.2.1 Transport channel parameters

See clause 6.10.3.4.1.43.2.1.

6.11.5.4.1.43.2.2 Physical channel parameters

6.11.5.4.1.43.2.2.1 Physical channel parameters (one CCTrCH)

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF 1 x 1 code x 6 time slots	SF 1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	8 408 bits	8 388 bits
	TFCI code word / radio frame	32 bits	48 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.60	0.60

6.11.5.4.1.43.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.5.4.1.43.2.2.2.1 Physical channel parameters (conversational + SRB)

See clause 6.11.5.4.1.4.2.2.

6.11.5.4.1.43.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	(SF 1 x 1 code x 4 time slots) + (SF 16 x 10 codes x 2 time slots)	SF 1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	7 368 bits	8 412 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.56	0.64

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

6.11.5.4.1.44.1 Uplink

6.11.5.4.1.44.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.44.1.1.4 TFCS

See clause 6.10.3.4.1.44.1.1.4.

6.11.5.4.1.44.1.2 Physical channel parameters

DPCH Uplink	Modulation	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	4 188 bits
	TFCI code word / radio frame	24 bits
	TPC / radio frame	2x3 bits
	SS / radio frame	2x3 bits
	Puncturing Limit	0.80 (alt 0.72)

6.11.5.4.1.44.2 Downlink

6.11.5.4.1.44.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.11.5.4.1.35.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.44.2.1.4 TFCS

TFCS size	32 (alt. 50)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 2 048 kbps RAB , DCCH)= ((TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1))

For better understanding of the TFCS please note that the following combinations are not included in the table above:

- (TF2, TF1, TF1, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF2, TF1, TF1, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1).

6.11.5.4.1.44.2.2 Physical channel parameters

DPCH Downlink	Modulation	8PSK
	Codes and time slots / radio frame	SF 1 x 1 code x 10 time slots
	Max. Number of data bits/radio frame	21 060 bits
	TFCI code word / radio frame	48 bits
	TPC / radio frame	2x3 bits
	SS / radio frame	2x3 bits
	Puncturing Limit	1

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

6.11.5.4.1.45.1 Uplink

6.11.5.4.1.45.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.17.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.45.1.1.4 TFCS

See clause 6.10.3.4.1.45.1.1.4.

6.11.5.4.1.45.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.45.2 Downlink

6.11.5.4.1.45.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.17.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.45.2.1.4 TFCS

See clause 6.10.3.4.1.45.2.1.4.

6.11.5.4.1.45.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 9 codes x 2 time slots
	Max. Number of data bits/radio frame	1 560 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.46 Void

6.11.5.4.1.47 Void

6.11.5.4.1.48 Void

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

6.11.5.4.1.49.1 Uplink

6.11.5.4.1.49.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.49.1.1.4 TFCS

See clause 6.10.3.4.1.49.1.1.4.

6.11.5.4.1.49.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.88

6.11.5.4.1.49.2 Downlink

6.11.5.4.1.49.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.49.2.1.4 TFCS

See clause 6.10.3.4.1.49.2.1.4.

6.11.5.4.1.49.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 11 codes x 2 time slots
	Max. Number of data bits/radio frame	1 912 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

6.11.5.4.1.49a Conversational / speech / UL: 12.2 7.95 5.9 4.75 DL: 12.2 7.95 5.9 4.75 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.49a.1 Uplink

6.11.5.4.1.49a.1.1 Transport channel parameters

6.11.5.4.1.49a.1.1.1 Transport channel parameters for Conversational / speech / UL: 12.2 7.95 5.9 4.75 kbps / CS RAB

See clause 6.10.3.4.1.4a.1.1.1.

6.11.5.4.1.49a.1.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.11.5.4.1.49a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.49a.1.1.4 TFCS

See clause 6.10.3.4.1.49a.1.1.4.

6.11.5.4.1.49a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.88

6.11.5.4.1.49a.2 Downlink

6.11.5.4.1.49a.2.1 Transport channel parameters

6.11.5.4.1.49a.2.1.1 Transport channel parameters for Conversational / speech / DL: 12.2 7.95 5.9 4.75 kbps / CS RAB

See clause 6.10.3.4.1.4a.2.1.1.

6.11.5.4.1.49a.2.1.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.2.1.1.

6.11.5.4.1.49a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.49.2.1.4 TFCS

See clause 6.10.3.4.1.49a.2.1.4.

6.11.5.4.1.49a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 11 codes x 2 time slots
	Max. Number of data bits/radio frame	1 912 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

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

6.11.5.4.1.50.1 Uplink

6.11.5.4.1.50.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.50.1.1.3 TFCS

See clause 6.10.3.4.1.50.1.1.3.

6.11.5.4.1.50.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.50.2 Downlink

6.11.5.4.1.50.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.50.2.1.3 TFCS

See clause 6.10.3.4.1.50.2.1.3.

6.11.5.4.1.50.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 15 codes x 2 time slots
	Max. Number of data bits/radio frame	2 616 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.48

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

6.11.5.4.1.51.1 Uplink

6.11.5.4.1.51.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.26.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.51.1.1.4 TFCS

See clause 6.10.3.4.1.51.1.1.4.

6.11.5.4.1.51.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52 (alt. 0.48)

6.11.5.4.1.51.2 Downlink

6.11.5.4.1.51.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.25.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.51.2.1.4 TFCS

See clause 6.10.3.4.1.51.2.1.4.

6.11.5.4.1.51.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.51a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.51a.1 Uplink

6.11.5.4.1.51a.1.1 Transport channel parameters

6.11.5.4.1.51a.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.11.5.4.1.51a.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.3.4.1.23a.1.1.1.

6.11.5.4.1.51a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.51a.1.1.4 TFCS

See clause 6.10.3.4.1.51a.1.1.4.

6.11.5.4.1.51a.1.2 Physical channel parameters

DPCH Uplink	Physical 1	Physical 2
Modulation	QPSK	QPSK
Codes and time slots / radio frame	SF2 x 1 code x 2 time slots	SF1 x 1 code x 2 time slots
Max. Number of data bits/radio frame	1 384 bits	2 792 bits
TFCI code word / radio frame	16 bits	16 bits
TPC / radio frame	2x2 bits	2x2 bits
SS / radio frame	2x2 bits	2x2 bits
Puncturing Limit	0.40	0.84

6.11.5.4.1.51a.2 Downlink

6.11.5.4.1.51a.2.1 Transport channel parameters

6.11.5.4.1.51a.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.2.1.1.

6.11.5.4.1.51a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.3.4.1.23.2.1.1.

6.11.5.4.1.51a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.51a.2.1.4 TFCS

See clause 6.10.3.4.1.51.2.1.4.

6.11.5.4.1.51a.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
Codes and time slots / radio frame	SF1 x 1 code x 2 time slots	
Max. Number of data bits/radio frame	2 792 bits	
TFCI code word / radio frame	16 bits	
TPC / radio frame	2x2 bits	
SS / radio frame	2x2 bits	
Puncturing Limit	0.84	

6.11.5.4.1.51b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.51b.1 Uplink

6.11.5.4.1.51b.1.1 Transport channel parameters

6.11.5.4.1.51b.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.3.4.1.13.1.1.1.

6.11.5.4.1.51b.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.23b.1.1.1.

6.11.5.4.1.51b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.51b.1.1.4 TFCS

See clause 6.10.3.4.1.51b.1.1.4.

6.11.5.4.1.51b.1.2 Physical channel parameters

DPCH Uplink	Physical 1	Physical 2
	Modulation	QPSK
Codes and time slots / radio frame	SF2 x 1 code x 2 time slots	SF1 x 1 code x 2 time slots
Max. Number of data bits/radio frame	1 384 bits	2 792 bits
TFCI code word / radio frame	16 bits	16 bits
TPC / radio frame	2x2 bits	2x2 bits
SS / radio frame	2x2 bits	2x2 bits
Puncturing Limit	0.40	0.76

6.11.5.4.1.51b.2 Downlink

See clause 6.11.5.4.1.51.2.

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

6.11.5.4.1.52.1 Uplink

See clause 6.11.5.4.1.51.1.

6.11.5.4.1.52.2 Downlink

6.11.5.4.1.52.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.2.1.1.

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.52.2.1.4 TFCS

See clause 6.10.3.4.1.52.2.1.4.

6.11.5.4.1.52.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 12 codes x 4 time slots
	Max. Number of data bits/radio frame	4 200 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.53.1 Uplink

6.11.5.4.1.53.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.13.1.1.1.

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

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.53.1.1.4 TFCS

See clause 6.10.3.4.1.53.1.1.4.

6.11.5.4.1.53.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 4 time slots	SF1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	5 608 bits	4 188 bits
	TFCI code word / radio frame	16 bits	24 bits
	TPC / radio frame	2x2 bits	2x3 bits
	SS / radio frame	2x2 bits	2x3 bits
	Puncturing Limit	0.72 (alt 0.68)	0.52 (alt 0.48)

6.11.5.4.1.53.2 Downlink

See clause 6.11.5.4.1.52.2.

6.11.5.4.1.54 Void

6.11.5.4.1.55 Void

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

6.11.5.4.1.56.1 Uplink

6.11.5.4.1.56.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.56.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.56.1.1.3 TFCS

See clause 6.10.3.4.1.56.1.1.3.

6.11.5.4.1.56.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.84 (alt 0.76)	

6.11.5.4.1.56.2 Downlink

6.11.5.4.1.56.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.56.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.56.2.1.3 TFCS

See clause 6.10.3.4.1.56.2.1.3.

6.11.5.4.1.56.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.84	

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

6.11.5.4.1.57.1 Uplink

6.11.5.4.1.57.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.38d.1.1.2.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.57.1.1.3 TFCS

See clause 6.11.5.4.1.57.1.1.3.

6.11.5.4.1.57.1.2 Physical channel parameters

DPCH Uplink		Physical 1
	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x 2 time slots

	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52 (alt. 0.44)

6.11.5.4.1.57.2 Downlink

6.11.5.4.1.57.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.57.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.57.2.1.3 TFCS

See clause 6.10.3.4.1.57.2.1.3.

6.11.5.4.1.57.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.1.58 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.58.1 Uplink

6.11.5.4.1.58.1.1 Transport channel parameters

6.11.5.4.1.58.1.1.1 Transport channel parameters for Streaming / unknown / UL:16 kbps / PS RAB

See clause 6.10.3.4.1.58.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.58.1.1.4 TFCS

See clause 6.10.3.4.1.58.1.1.4.

6.11.5.4.1.58.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60 (alt 0.56)

6.11.5.4.1.58.2 Downlink

6.11.5.4.1.58.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.58.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.58.2.1.4 TFCS

See clause 6.10.3.4.1.58.2.1.4.

6.11.5.4.1.58.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 8 code x 2 time slots
	Max. Number of data bits / radio frame	1 384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.44	

6.11.5.4.1.59 Reserved for future use

6.11.5.4.1.60 Reserved for future use

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

6.11.5.4.1.61.1 Uplink

6.11.5.4.1.61.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.61.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.61.1.1.4 TFCS

See clause 6.10.3.4.1.61.1.1.4.

6.11.5.4.1.61.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.84 (alt 0.80)	

6.11.5.4.1.61.2 Downlink

6.11.5.4.1.61.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.61.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.61.2.1.4 TFCS

See clause 6.10.3.4.1.61.2.1.4.

6.11.5.4.1.61.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
Puncturing Limit	0.84	

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

6.11.5.4.1.62.1 Uplink

6.11.5.4.1.62.1.1 Transport channel parameters

6.11.5.4.1.62.1.1.1 Transport channel parameters for Interactive or background / UL:256 kbps / PS RAB

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

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.62.1.1.3 TFCS

TFCS size	10 (alt.14)
TFCS	(256 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.5.4.1.62.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 4 time slots
	Max. Number of data bits/radio frame	5 608 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.62.2 Downlink

See clause 6.11.5.4.1.25.2.

6.11.5.4.1.63 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

6.11.5.4.1.63.1 Uplink

See clause 6.11.5.4.1.58.1.

6.11.5.4.1.63.2 Downlink

6.11.5.4.1.63.2.1 Transport channel parameters

6.11.5.4.1.63.2.1.1 Transport channel parameters for Streaming / unknown / DL:32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.63.2.1.4 TFCS

TFCS size	12
TFCS	(32 kbps RAB, 8 kbps 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)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.5.4.1.63.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots+ SF16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	1032 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

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

6.11.5.4.1.64.1 Uplink

See clause 6.11.5.4.1.58.1.

6.11.5.4.1.64.2 Downlink

6.11.5.4.1.64.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.64.2.1.4 TFCS

See clause 6.10.3.4.1.58.2.1.4.

6.11.5.4.1.64.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x 2 time slots+ SF16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	3134 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.65 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

6.11.5.4.1.65.1 Uplink

6.11.5.4.1.65.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.23.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.65.1.1.4 TFCS

TFCS size	12
TFCS	(32 kbps RAB, 8 kbps 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)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.5.4.1.65.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x 2 time slots + SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1032 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.65.2 Downlink

6.11.5.4.1.65.2.1 Transport channel parameters

6.11.5.4.1.65.2.1.1 Transport channel parameters for Streaming / unknown / DL:256 kbps / PS RAB

See clause 6.10.3.4.1.31.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.65.2.1.4 TFCS

TFCS size	20 (alt.28)
TFCS	(256 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), (alt. (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0), (TF5,TF0,TF0), (TF6,TF0,TF0),(TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0), (TF5,TF1,TF0), (TF6,TF1,TF0),(TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1), (TF5,TF0,TF1), (TF6,TF0,TF1),(TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1), (TF5,TF1,TF1), (TF6,TF1,TF1))

6.11.5.4.1.65.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 code x 4 time slots + SF16 x 2 code x 2 time slots
	Max. Number of data bits / radio frame	5960 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

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

6.11.5.4.1.66.1 Uplink

See clause 6.11.5.4.1.44.1.

6.11.5.4.1.66.2 Downlink

See clause 6.11.5.4.1.41.1.

6.11.5.4.1.67 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.67.1 Uplink

6.11.5.4.1.67.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.67.1.1.2 Transport channel parameters for Streaming / unknown / UL: 16 kbps / PS RAB

See clause 6.10.3.4.1.58.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.67.1.1.5 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)

6.11.5.4.1.67.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF4 x 1 code x 2 time slots + SF8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1032 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.67.2 Downlink

6.11.5.4.1.67.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.58.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.67.2.1.4 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 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)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.5.4.1.67.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 8 codes x 2 time slots+ SF 16 x 4 codes x 2 time slots
	Max. Number of data bits/radio frame	2028 bits
	TFCl code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.68 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

6.11.5.4.1.68.1 Uplink

See clause 6.11.5.4.1.67.1.

6.11.5.4.1.68.2 Downlink

6.11.5.4.1.68.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.27.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.68.2.1.4 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)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.5.4.1.68.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 codes x 2 time slots+ SF 16 x 4 codes x 2 time slots
Max. Number of data bits/radio frame	3496 bits	
TFCI code word / radio frame	16 bits	
TPC / radio frame	2x2 bits	
SS / radio frame	2x2 bits	
Puncturing Limit	0.56	

6.11.5.4.1.69 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.1.69.1 Uplink

6.11.5.4.1.69.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.1.69.1.1.2 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

See clause 6.10.3.4.1.28.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.69.1.1.5 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, TF1, TF2, 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)

6.11.5.4.1.69.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF1 x 1 code x 2 time slots+ SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	3496 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.1.69.2 Downlink

See clause 6.11.5.4.1.67.2.

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

6.11.5.4.1.70.1 Uplink

6.11.5.4.1.70.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH	DTCH
	RLC mode	AM	AM	AM
	Payload sizes, bit	320	320	320
	Max data rate, bps	64 000	64 000	64 000
	AMD PDU header, bit	16	16	16
MAC	MAC header, bit	4	4	4
	MAC multiplexing	3 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		

	TFS	TF0, bits	0x340
		TF1, bits	1x340
		TF2, bits	2x340
		TF3, bits	3x340
		TF4, bits	4x340
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 284	
	Max number of bits/radio frame before rate matching	2142	
RM attribute	130 to 170		

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.1.70.1.1.3 TFCS

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

6.11.5.4.1.70.1.2 Physical channel parameters

See clause 6.11.5.4.1.57.1.2.

6.11.5.4.1.70.2 Downlink

6.11.5.4.1.70.2.1 Transport channel parameters

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

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

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.1.70.2.1.3 TFCS

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

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

6.11.5.4.1.70.2.2 Physical channel parameters

See clause 6.11.5.4.1.57.2.2.

6.11.5.4.2 Combinations on PDSCH, SCCPCH, PUSCH and PRACH

6.11.5.4.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4/16.8
DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs
for SHCCH

6.11.5.4.2.1.1 Uplink

6.11.5.4.2.1.1.1 Transport channel parameters

6.11.5.4.2.1.1.1.1 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB
and UL SRB for SHCCH mapped on USCH

See clause 6.10.3.4.2.1.1.1.1.

6.11.5.4.2.1.1.1.2 Transport channel parameters for UL: 3.4 Kbps SRBs for DCCH mapped on USCH

See clause 6.10.3.4.2.1.1.1.2.

6.11.5.4.2.1.1.1.3 TFCS for USCH

See clause 6.10.3.4.2.1.1.1.3.

6.11.5.4.2.1.1.1.4 Transport channel parameters for SRB for CCCH and UL SRBs for DCCH and UL
SRB for SHCCH mapped on RACH

See clause 6.10.3.4.2.1.1.1.4.

6.11.5.4.2.1.1.2 Physical channel parameters

6.11.5.4.2.1.1.2.1 Physical channel parameters for PUSCH

PUSCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCS code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.88

6.11.5.4.2.1.1.2.2 Physical channel parameter for PRACH.

See clause 6.11.5.4.5.1.2.

6.11.5.4.2.1.2 Downlink

6.11.5.4.2.1.2.1 Transport channel parameters

6.11.5.4.2.1.2.1.1 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB
and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.1.

6.11.5.4.2.1.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.2.

6.11.5.4.2.1.2.1.3 TFCS for DSCH

See clause 6.10.3.4.2.1.2.1.3.

6.11.5.4.2.1.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

6.11.5.4.2.1.2.1.4.1 FACH transport channel configuration without DTCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	160	136 or 120*	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 000)	
	RLC header, bit	8	8	16	16	16	8	0	
MAC	MAC header, bit	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	7 logical channel multiplexing							
Layer 1	TrCH type	FACH							
	TB sizes, bit	171	171	171	171	171	171	171	
	TFS	TF0, bits	0x171						
		TF1, bits	1x171						
		TF2, bits	2x171						
		TF3, bits	3x171 (alt. N/A)						
		TF4, bits	4x171 (alt. N/A)						
		TF5, bits							
		TF6, bits							
	TTI, ms	20							
	Coding type	CC 1/2							
	CRC, bit	16							
	Max number of bits/TTI after channel coding	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)	1 528 (alt. 764)

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

6.11.5.4.2.1.2.1.4.2 FACH transport channel configuration with DTCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	Interactive/Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	AM	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	320	160	136 or 120 (note)	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	16	8	8	16	16	16	8	0	
MAC	MAC header, bit	27	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	8 logical channel multiplexing								
Layer 1	TrCH type	FACH								
	TB sizes, bit	171, 363								
	TFS	TF0, bits	0x171							
		TF1, bits	1x171							
		TF2, bits	2x171							
		TF3, bits	1x363							
		TF4, bits	3x171 (alt. N/A)							
		TF5, bits	4x171 (alt. N/A)							
TF6, bits										

	TF6, bits	2x363 (alt. N/A)
	TTI, ms	20
	Coding type	CC 1/2
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 532 (alt. 766)
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.		

6.11.5.4.2.1.2.1.5 TFCS for FACH

See clause 6.10.3.4.2.1.2.1.5.

6.11.5.4.2.1.2.2 Physical channel parameters

6.11.5.4.2.1.2.2.1 Physical channel parameters for PDSCH

PDSCH	Modulation	QPSK	8PSK
	Codes and time slots / radio frame	SF16 x 11 codes x 6 time slots	SF1 x 1 code x 4 time slots
Max. Number of data bits/radio frame	5 784 bits	6 511 bits	
TFCI code word / radio frame	16 bits	24 bits	
TPC / radio frame	2x2 bits	2x3 bits	
SS / radio frame	2x2 bits	2x3 bits	
Puncturing Limit	0.60	0.68	

6.11.5.4.2.1.2.2.2 Physical channel parameters for SCCPCH

6.11.5.4.2.1.2.2.2.1 Physical channel parameters for SCCPCH without DTCH

S-CCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 5 codes x 2 time slots (alt. SF16 x 2 codes x 2 time slot)
Max. Number of data bits/radio frame	864 bits (alt. 344 bits)	
TFCI code word / radio frame	16 bits	
TP(alt. 8 bits)C/ radio frame	0 bits	
SS / radio frame	0 bits	
Puncturing Limit	1 (alt. 0.88)	

6.11.5.4.2.1.2.2.2.2 Physical channel parameters for SCCPCH with DTCH

S-CCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 5 codes x 2 time slots (alt. SF16 x 2 codes x 2 time slot)
Max. Number of data bits/radio frame	864 bits (alt. 336 bits)	
TFCI code word / radio frame	16 bits	
TPC / radio frame	0 bits	
SS / radio frame	0 bits	
Puncturing Limit	1 (alt. 0.84)	

6.11.5.4.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH+ UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.5.4.2.2.1 Uplink

See clause 6.11.5.4.2.1.1.

6.11.5.4.2.2.2 Downlink

6.11.5.4.2.2.2.1 Transport channel parameters

6.11.5.4.2.2.2.1.1 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.2.2.1.1.

6.11.5.4.2.2.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.2.

6.11.5.4.2.2.2.1.3 TFCS for DSCH

See clause 6.10.3.4.2.2.2.1.3.

6.11.5.4.2.2.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.5.4.2.1.2.1.4.

6.11.5.4.2.2.2.1.5 TFCS for FACH

See clause 6.11.5.4.2.1.2.1.5.

6.11.5.4.2.2.2.2 Physical channel parameters

6.11.5.4.2.2.2.2.1 Physical channel parameters for PDSCH

PDSCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 1 x 1 code x 6 time slots
	Max. Number of data bits/radio frame	8 424 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

6.11.5.4.2.2.2.2.2 Physical channel parameters for SCCPCH

See clause 6.11.5.4.2.1.2.2.2.

6.11.5.4.2.3 Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.5.4.2.3.1 Uplink

See clause 6.11.5.4.2.1.1.

6.11.5.4.2.3.2 Downlink

6.11.5.4.2.3.2.1 Transport channel parameters

6.11.5.4.2.3.2.1.1 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	UM	
	Payload sizes, bit	1 704	160	
	Max data rate, bps	2 048 000	16 000	
	RLC header, bit	16	8	
MAC	MAC header, bit	0	0	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DSCH	DSCH	
	TB sizes, bit	1720	168	
	TFS	TF0, bits	0x1720	0x168
		TF1, bits	1x1720	1x168
		TF2, bits	2x1720	N/A
		TF3, bits	4x1720	N/A
		TF4, bits	8x1720	N/A
		TF5, bits	12x1720	N/A

	TF6, bits	N/A (alt. 16x1720)	N/A
	TF7, bits	N/A (alt. 20x1720)	N/A
	TF8, bits	N/A (alt. 24x1720)	N/A
	TTI, ms	10 (alt. 20)	10
	Coding type	No Coding	CC 1/2
	CRC, bit	24	16
	Max number of bits/TTI after channel coding	20 928 (alt. 41 856)	384
	Downlink: Max number of bits/radio frame before rate matching	20 928 (alt. 20 928)	384
	RM attribute	135 to 175	180 to 220

6.11.5.4.2.3.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.2.

6.11.5.4.2.3.2.1.3 TFCS for DSCH

TFCS size	22 (alt.34)
TFCS	(2 048 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (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), (TF5, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1))

For better understanding of the TFCS please note that the following combinations are not included in the table above:

- (TF5, TF1, TF0), (TF5, TF1, TF1), (TF8, TF1, TF0), (TF8, TF1, TF1).

6.11.5.4.2.3.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.5.4.2.1.2.1.4.

6.11.5.4.2.3.2.1.5 TFCS for FACH

See clause 6.11.5.4.2.1.2.1.5.

6.11.5.4.2.3.2.2 Physical channel parameters

6.11.5.4.2.3.2.2.1 Physical channel parameters for PDSCH

PDSCH	Modulation	8PSK
	Codes and time slots / radio frame	SF1 x 1 code x 10 time slots
	Max. Number of data bits/radio frame	21 084 bits
	TFCI code word / radio frame	24 bits
	TPC / radio frame	2x3 bits
	SS / radio frame	2x3 bits
	Puncturing Limit	1

6.11.5.4.2.3.2.2.2 Physical channel parameters for S-CCPCH

See clause 6.11.5.4.2.1.2.2.2.

6.11.5.4.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

6.11.5.4.3.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

6.11.5.4.3.1.1 Uplink

6.11.5.4.3.1.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.3.1.1.1.2 Transport channel parameters for UL SRBs for DCCH

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.3.1.1.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.1.1.3.

6.11.5.4.3.1.1.1.4 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB and UL SRB for SHCCH mapped on USCH

See clause 6.10.3.4.2.1.1.1.1.

6.11.5.4.3.1.1.1.5 TFCS for USCH

See clause 6.10.3.4.3.1.1.1.5.

6.11.5.4.3.1.1.1.6 Transport channel parameters for SRB for CCCH and UL SRB for SHCCH mapped on RACH

See clause 6.10.3.4.3.1.1.1.6.

6.11.5.4.3.1.1.2 Physical channel parameters

Physical channel parameters for uplink DPCH see clause 6.11.5.4.1.4.1.2.

Physical channel parameters for PUSCH see clause 6.11.5.4.2.1.1.2.

Physical channel parameters for PRACH see clause 6.11.5.4.2.1.1.2.

6.11.5.4.3.1.2 Downlink

6.11.5.4.3.1.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.3.1.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.3.1.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

6.11.5.4.3.1.2.1.4 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.1.2.1.1.

6.11.5.4.3.1.2.1.5 TFCS for DSCH

See clause 6.10.3.4.3.1.2.1.5.

6.11.5.4.3.1.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

Higher layer	RAB/Signalling RB	SRB#0	SRB#5	SRB#6	
	User of Radio Bearer	RRC	RRC	RRC	
RLC	Logical channel type	CCCH	SHCCH	BCCH	
	RLC mode	UM	UM	TM	
	Payload sizes, bit	160	160	168	
	Max data rate, bps	32 000	32 000	33 600	
	RLC header, bit	8	8	0	
MAC	MAC header, bit	3			
	MAC multiplexing	3 logical channel multiplexing			
Layer 1	TrCH type	FACH			
	TB sizes, bit	171			
	TFS	TF0, bits	0x171		
		TF1, bits	1x171		
		TF2, bits	2x171		
		TF3, bits	3x171		
		TF4, bits	4x171		
	TTI, ms	20			
	Coding type	CC 1/2			
	CRC, bit	16			
	Max number of bits/TTI after channel coding	1 528			
	Max number of bits/radio frame before rate matching	764			

6.11.5.4.3.1.2.1.7 TFCS for FACH

TFCS size	5
TFCS	FACH = TF0, TF1, TF2, TF3, TF4

6.11.5.4.3.1.2.2 Physical channel parameters

Physical channel parameters for downlink for DPCH see clause 6.11.5.4.1.4.2.2.

Physical channel parameters for downlink for PDSCH see clause 6.11.5.4.2.1.2.2.

Physical channel parameters for SCCPCH see clause 6.11.5.4.2.1.2.2.

6.11.5.4.3.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

6.11.5.4.3.2.1 Uplink

See clause 6.11.5.4.3.1.1.

6.11.5.4.3.2.2 Downlink

6.11.5.4.3.2.2.1 Transport channel parameters

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

See clause 6.10.3.1.4.1.4.2.1.1.

6.11.5.4.3.2.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.3.2.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

6.11.5.4.3.2.2.1.4 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.10.3.4.2.2.2.1.1.

6.11.5.4.3.2.2.1.5 TFCS for DSCH

See clause 6.10.3.4.3.2.2.1.5.

6.11.5.4.3.2.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.5.4.3.1.2.1.6.

6.11.5.4.3.2.2.1.7 TFCS for FACH

See clause 6.11.5.4.3.1.2.1.7.

6.11.5.4.3.2.2.2 Physical channel parameters

Physical channel parameters for downlink for DPCH see clause 6.11.5.4.1.4.2.2.

Physical channel parameters for downlink for PDSCH see clause 6.11.5.4.2.2.2.2.

Physical channel parameters for downlink for SCCPCH see clause 6.11.5.4.2.1.2.2.

6.11.5.4.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

6.11.5.4.3.3.1 Uplink

See clause 6.11.5.4.3.1.1.

6.11.5.4.3.3.2 Downlink

6.11.5.4.3.3.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.3.3.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.3.3.2.1.3 TFCS for DCH

See clause 6.10.3.4.1.4.2.1.3.

6.11.5.4.3.3.2.1.4 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.11.5.4.2.3.2.1.2.

6.11.5.4.3.3.2.1.5 TFCS for DSCH

See clause 6.11.5.4.2.3.2.1.4.

6.11.5.4.3.3.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.5.4.3.1.2.1.6.

6.11.5.4.3.3.2.1.7 TFCS for FACH

See clause 6.11.5.4.3.1.2.1.7.

6.11.5.4.3.3.2.2 Physical channel parameters

Physical channel parameters for downlink DPCH see clause 6.11.5.4.1.4.2.2.

Physical channel parameters for PDSCH see clause 6.11.5.4.2.3.2.2.

Physical channel parameters for SCCPCH see clause 6.11.5.4.2.1.2.2.

6.11.5.4.4 Combinations on SCCPCH

6.11.5.4.4.1 Stand-alone signalling RB for PCCH

6.11.5.4.4.1.1 Transport channel parameters

6.11.5.4.4.1.1.1 Transport channel parameter of SRB for PCCH

See clause 6.10.3.4.4.1.1.1.

6.11.5.4.4.1.1.2 TFCS

See clause 6.10.3.4.4.1.1.2.

6.11.5.4.4.1.2 Physical channel parameters

S-CCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 2 codes x 2 time slots (alt. SF16 x 1 codes x 2 time slots)
	Max. Number of data bits/radio frame	344 bits (alt. 168 bits)
	TFCS code word / radio frame	8 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	1 (alt. 0.84)
NOTE:	Alt. Puncturing Limit applies when alt. payload sizes and alt. codes and time slots / radio frame are both configured.	

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

6.11.5.4.4.2.1 Transport channel parameters

6.11.5.4.4.2.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	Interactive/ Background RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	27	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	363	
	TFS	TF0, bits	0x363
		TF1, bits	1x363
		TF2, bits	2x363
	TTL, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTL before rate matching	2298	
	RM attribute	110 to 150	

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

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH	
	RLC mode	UM	UM	AM	AM	AM	TM	
	Payload sizes, bit	160	136 or 120	128	128	128	168	
	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 2400 (alt. 24 000 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	33 600 (alt. 16 800)	
	RLC header, bit	8	8	16	16	16	0	
MAC	MAC header, bit	3	27 or 43	27	27	27	3	
	MAC multiplexing	6 logical channel multiplexing						
Layer 1	TrCH type	FACH						
	TB sizes, bit	171						
	TFS	TF0, bits	0x171					
		TF1, bits	1x171					
		TF2, bits	2x171					
		TF3, bits	3x171 (alt. N/A)					
		TF4, bits	4x171 (alt. N/A)					
	TTI, ms	20						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI before rate matching	1 528 (alt. 764)						
	Max number of bits/radio frame before rate matching	764 (alt. 382)						
	RM attribute	200 to 240						
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.								

6.11.5.4.4.2.1.3 TFCS

TFCS size	9 (alt 13)
TFCS	(SRBs for CCCH/DCCH/BCCH, 32kbps RAB) = (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF0, TF2), (TF1, TF2), (TF2, TF2) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF0, TF2), (TF1, TF2), (TF2, TF2))

6.11.5.4.4.2.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 5 codes x 2 time slots (alt. SF16 x 2 codes x 2 time slots)
	Max. Number of data bits/radio frame	1 568 bits (alt. 688 bits)
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.52 (alt. 0.48)
NOTE: Alt. Puncturing Limit applies when alt. TFCS and alt. codes and time slots / radio frame are both configured.		

6.11.5.4.4.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

6.11.5.4.4.2a.1 Transport channel parameters

6.11.5.4.4.2a.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB

See clause 6.10.3.4.2a.1.1.

6.11.5.4.4.2a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.5.4.4.2.1.2.

6.11.5.4.4.2a.1.3 TFCS

See clause 6.10.3.4.4.2a.1.3.

6.11.5.4.4.2a.2 Physical channel parameters

See clause 6.11.5.4.4.2.2.

6.11.5.4.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

6.11.5.4.4.2b.1 Transport channel parameters

6.11.5.4.4.2b.1.1 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.5.4.4.2.1.2.

6.11.5.4.4.2b.1.2 TFCS

See clause 6.10.3.4.4.2b.1.2.

6.11.5.4.4.2b.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 4 codes x 2 time slots (alt. SF16 x 2 codes x 2 time slots)
	Max. Number of data bits/radio frame	688 bits (alt. 344 bits)
	TFCI code word / radio frame	16 bits (alt. 8 bits)
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.88
NOTE:	Alt. Puncturing Limit applies when alt. TFCS and alt. codes and time slots / radio frame are both configured.	

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

6.11.5.4.4.3.1 Transport channel parameters

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

See clause 6.11.5.4.4.2.1.1.

6.11.5.4.4.3.1.2 Transport channel parameters of SRB for PCCH

See clause 6.10.3.4.4.1.1.1.

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

See clause 6.11.5.4.4.2.1.2.

6.11.5.4.4.3.1.4 TFCS

TFCS size	18(alt.26)
TFCS	(SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH, 32 kbps RAB) = (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF0, TF2), (TF1, TF0, TF2), (TF0, TF1, TF2), (TF1, TF1, TF2), (TF0, TF2, TF2), (TF1, TF2, TF2) (alt.(TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF0, TF2), (TF1, TF0, TF2), (TF0, TF1, TF2), (TF1, TF1, TF2), (TF0, TF2, TF2), (TF1, TF2, TF2))

6.11.5.4.4.3.2 Physical channel parameters

S-CCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 5 codes x 2 time slots (alt. SF16 x 3 codes x 2 time slots)
	Max. Number of data bits/radio frame	1 744 bits (alt. 1 040 bits)
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.48 (alt. 0.52)
NOTE:	Alt. Puncturing Limit applies when alt. TFCS and alt. codes and time slots / radio frame are both configured.	

6.11.5.4.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

6.11.5.4.4.3a.1 Transport channel parameters

6.11.5.4.4.3a.1.1 Transport channel parameters of SRB for PCCH

See clause 6.10.3.4.4.1.1.1.

6.11.5.4.4.3a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.5.4.4.2.1.2.

6.11.5.4.4.3a.1.3 TFCS

See clause 6.10.3.4.4.3a.1.3.

6.11.5.4.4.3a.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 4 codes x 2 time slots (alt. SF16 x 2 codes x 2 time slots)
	Max. Number of data bits/radio frame	688 bits (alt. 336 bits)
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.60 (alt. 0.52)
NOTE:	Alt. applies when alts for SRB for PCCH and SRBs for CCCH/ DCCH/ BCCH are both configured.	

6.11.5.4.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH

6.11.5.4.4.4.1 Transport channel parameters

6.11.5.4.4.4.1.1 Transport channel parameters of RB for CTCH

See clause 6.10.3.4.4.4.1.1.

6.11.5.4.4.4.1.2 Transport channel parameters of SRB for CCCH and SRB for BCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#5	
	User of Radio Bearer	RRC	RRC	
RLC	Logical channel type	CCCH	BCCH	
	RLC mode	UM	TM	
	Payload sizes, bit	160	168	
	Max data rate, bps	16 000	16 800	
	AMD/UMD/TrD PDU header, bit	8	0	
MAC	MAC header, bit	3	3	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	FACH		
	TB sizes, bit	171		
	TFS	TF0, bits	0x171	
		TF1, bits	1x171	
		TF2, bits	2x171	
	TTI, ms	20		
	Coding type	CC 1/3		
	CRC, bit	16		
	Max number of bits/TTI before rate matching	1 146		
	Max number of bits/radio frame before rate matching	573		
	RM attribute	200 to 240		

6.11.5.4.4.4.1.3 TFCS

See clause 6.10.3.4.4.4.1.3.

6.11.5.4.4.4.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 4 codes x 2 time slots
	Max. Number of data bits/radio frame	688 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.52

6.11.5.4.4.5 64.8kbps RB for MTCH with 40 ms TTI

6.11.5.4.4.5.1 Transport channel parameters

6.11.5.4.4.5.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	648	
	Max data rate, bps	64800	
	UMD PDU header, bit	8	
MAC	MAC header, bit	9	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	665	
	TFS	TF0, bits	0x665
		TF1, bits	1x665
		TF2, bits	2x665
		TF3, bits	3x665
		TF4, bits	4x665
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI before rate matching	8184	
RM attribute	160		

6.11.5.4.4.5.1.2 TFCS

TFCS size	5
TFCS	64 kbps RAB =TF0, TF1, TF2, TF3, TF4

6.11.5.4.4.5.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	1392 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.68

6.11.5.4.4.6 129.6 kbps RB for MTCH with 40 ms TTI

6.11.5.4.4.6.1 Transport channel parameters

6.11.5.4.4.6.1.1 Transport channel parameters for 128 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	648	
	Max data rate, bps	129600	
	UMD PDU header, bit	8	
MAC	MAC header, bit	9	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	665	
	TFS	TF0, bits	0x665
		TF1, bits	1x665
		TF2, bits	2x665
		TF3, bits	3x665
		TF4, bits	4x665
		TF5, bits	5x665
		TF6, bits	6x665
		TF7, bits	7x665
	TF8, bits	8x665	
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI before rate matching	16368		
RM attribute	160		

6.11.5.4.4.6.1.2 TFCS

TFCS size	9
TFCS	128 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8

6.11.5.4.4.6.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 16 codes x 2 time slots
	Max. Number of data bits/radio frame	2800 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.68

6.11.5.4.4.7 259.2 kbps RB for MTCH with 40 ms TTI

6.11.5.4.4.7.1 Transport channel parameters

6.11.5.4.4.7.1.1 Transport channel parameters for 256 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		259200
	UMD PDU header, bit		8
	MAC header, bit		9
MAC	MAC multiplexing		N/A
	TrCH type		FACH
Layer 1	TB sizes, bit		665
	TFS	TF0, bits	0x665
		TF1, bits	1x665
		TF2, bits	2x665
		TF3, bits	3x665
		TF4, bits	4x665
		TF5, bits	5x665
		TF6, bits	6x665
		TF7, bits	7x665
		TF8, bits	8x665
		TF9, bits	9x665
		TF10, bits	10x665
		TF11, bits	11x665
		TF12, bits	12x665
		TF13, bits	13x665
		TF14, bits	14x665
		TF15, bits	15x665
	TF16, bits	16x665	
	TTI, ms		40
	Coding type		TC
CRC, bit		16	
Max number of bits/TTI before rate matching		32724	
RM attribute		160	

6.11.5.4.4.7.1.2 TFCS

TFCS size	17
TFCS	256 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.11.5.4.4.7.2 Physical channel parameters

SCCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 16 codes x 4 time slots
	Max. Number of data bits/radio frame	5616 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.68

6.11.5.4.4.8 7.6 kbps signalling RB for MCCH

6.11.5.4.4.8.1 Transport channel parameters

See clause 6.10.2.4.3.8.1.1.

6.11.5.4.4.8.1.2 TFCS

See clause 6.10.2.4.3.8.1.2.

6.11.5.4.4.8.2 Physical channel parameters

S-CCPCH	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 1 codes x 2 time slots
	Max. Number of data bits/radio frame	270
	TFCI code word / radio frame	2 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	1

6.11.5.4.4.9 128kbps RB for MBSFN MTCH with 40 ms TTI

6.11.5.4.4.9.1 Transport channel parameters

6.11.5.4.4.9.1.1 Transport channel parameters for 124.4 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	4976	
	Max data rate, bps	128000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	9	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	2561	
	TFS	TF0, bits	0x2561
		TF1, bits	2x2561
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	15486	
	Max number of bits/radio frame before rate matching	3872	
	RM attribute	128	

6.11.5.4.4.9.1.2 TFCS

TFCS size	3
TFCS	124 kbps RAB =TF0, TF1, TF2

6.11.5.4.4.9.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF16 x 8 codes x 2 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	30566 bits
	TFCI code word / radio frame	16
	Puncturing limit	0.76

6.11.5.4.4.10 192 kbps RB for MBSFN MTCH with 40 ms TTI

6.11.5.4.4.10.1 Transport channel parameters

6.11.5.4.4.10.1.1 Transport channel parameters for 192 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4272
	Max data rate, bps		192000
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		2561
	TFS	TF0, bits	0x2561
		TF1, bits	3x2561
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		23220
	Max number of bits/radio frame before rate matching		5805
	RM attribute		128

6.11.5.4.4.10.1.1 TFCS

TFCS size	3
TFCS	320 kbps RAB =TF0, TF1, TF2

6.11.5.4.4.10.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF16 x 8 codes x 2 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	3056 bits
	TFCI code word / radio frame	16
	Puncturing limit	0.52

6.11.5.4.4.11 384 kbps RB for MBSFN MTCH with 40 ms TTI

6.11.5.4.4.11.1 Transport channel parameters

6.11.5.4.4.11.1.1 Transport channel parameters for 384 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		384000
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		2561
	TFS	TF0, bits	0x2561
		TF1, bits	6x2561
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		46440
	Max number of bits/radio frame before rate matching		11610
	RM attribute		128

6.11.5.4.4.11.1.2 TFCS

TFCS size	3
TFCS	496 kbps RAB =TF0, TF1, TF2

6.11.5.4.4.11.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF1 x 1 codes x 2 time slots
	Modulation	16QAM
	Max. Number of data bits/radio frame	12272 bits
	TFCI code word / radio frame	16
	Puncturing limit	1

6.11.5.4.4.12 7.2 kbps signalling RB for MBSFN MCCH

6.11.5.4.4.12.1 Transport channel parameters

6.11.5.4.4.12.1.1 Transport channel parameters for 7.2 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		72
	Max data rate, bps		7200
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		80
	TFS	TF0, bits	0x80
		TF1, bits	1x80
		TF2, bits	2x80
		TF3, bits	4x80
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1164
	Max number of bits/radio frame before rate matching		291
RM attribute		128	

6.11.5.4.4.12.1.2 TFCS

TFCS size	4
TFCS	MBMS SRB = TF0, TF1, TF2, TF3

6.11.5.4.4.12.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF16 x 1 code x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	248 bits
	TFCI code word / radio frame	16
	Puncturing limit	0.84

- 6.11.5.4.4.13 8kbps RB for MBSFN MTCH with 40 ms TTI
- 6.11.5.4.4.13.1 Transport channel parameters
- 6.11.5.4.4.13.1.1 Transport channel parameters for 8kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		328
	Max data rate, bps		8200
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		345
	TFS	TF0, bits	0x345
		TF1, bits	1x345
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1095
	Max number of bits/radio frame before rate matching		274
RM attribute		128	

- 6.11.5.4.4.13.1.2 TFCS

TFCS size	2
TFCS	8 kbps RAB =TF0, TF1

- 6.11.5.4.4.13.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF16 x 1 codes x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	248 bits
	TFCI code word / radio frame	16
	Puncturing limit	0.84

- 6.11.5.4.4.14 64kbps RB for MBSFN MTCH with 40 ms TTI
- 6.11.5.4.4.14.1 Transport channel parameters
- 6.11.5.4.4.14.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	1336	
	Max data rate, bps	66800	
	UMD PDU header, bit	8	
MAC	MAC header, bit	9	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	1353	
	TFS	TF0, bits	0x1353
		TF1, bits	1x1353
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4119	
	Max number of bits/radio frame before rate matching	2060	
RM attribute	128		

- 6.11.5.4.4.14.1.1 TFCS

TFCS size	2
TFCS	64 kbps RAB = TF0, TF1

- 6.11.5.4.4.14.2 Physical channel parameters

S-CCPCH	TPC / radio frame	0 bits
	Codes and time slots / radio frame	SF16 x 8 codes x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	2096 bits
	TFCI code word / radio frame	16
	Puncturing limit	1

- 6.11.5.4.5 Combinations on PRACH

- 6.11.5.4.5.1 SRB for CCCH + SRBs for DCCH

- 6.11.5.4.5.1.1 Transport channel parameters

- 6.11.5.4.5.1.1.1 Transport channel parameter for SRB for CCCH, SRBs for DCCH

See clause 6.10.3.4.5.1.1.1.

- 6.11.5.4.5.1.1.2 TFCS

See clause 6.10.3.4.5.1.1.2.

- 6.11.5.4.5.1.2 Physical channel parameters

PRACH	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	352 bits
	TPC / radio frame	0 bits
	SS / radio frame	0 bits
	Puncturing Limit	0.88

- 6.11.5.4.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH
- 6.11.5.4.5.2.1 Transport channel parameters
- 6.11.5.4.5.2.1.1 Transport channel parameters for Interactive or background / 12.8 kbps / PS RAB + SRB for CCCH + SRBs for DCCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	168	136	128	128	128
	Max data rate, bps	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16
MAC	MAC header, bit	26	2	26	26	26	26
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	RACH					
	TB sizes, bit	170					
	TFS	TF0, bits	1x170				
	TTI, ms	10					
	Coding type	CC 1/2					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	388					
	Max number of bits/ Radio frame before rate matching	388					

6.11.5.4.5.2.1.2 TFCS

TFCS size	1
TFCS	12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH = (TF0)

6.11.5.4.5.2.2 Physical channel parameters

See clause 6.11.5.4.5.1.2.

6.11.5.4.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

6.11.5.4.5.3.1 Transport channel parameters

6.11.5.4.5.3.1.1 Transport channel parameters for Interactive or background / 12.8 kbps / PS RAB + Interactive or background / 12.8 kbps / PS RAB + SRB for CCCH + SRBs for DCCH

Higher layer	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	128	168	136	128	128	128
	Max data rate, bps	12 800	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	16	0	8	16	16	16
MAC	MAC header, bit	26	26	2	26	26	26	26
	MAC multiplexing	7 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	170						
	TFS	TF0, bits	1x170					
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						

Higher layer	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
	Max number of bits/TTI after channel coding	388						
	Max number of bits/ Radio frame before rate matching	388						

6.11.5.4.5.3.1.2 TFCS

TFCS size	1
TFCS	12.8 kbps PS RAB + 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH = (TF0)

6.11.5.4.5.3.2 Physical channel parameters

See clause 6.11.5.4.5.1.2.

6.11.5.4.6 Combinations on DPCH and HS-PDSCH

6.11.5.4.6.1 Interactive or background / UL:8 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.6.1.1 Uplink

See clause 6.11.5.4.1.23a.1.

6.11.5.4.6.1.2 Downlink

6.11.5.4.6.1.2.1 Transport channel parameters

6.11.5.4.6.1.2.1.1 Transport channel parameters for HS-DSCH

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

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE2	Alt 2 Fixed RLC + MAC-ehs (Rel-8 and later releases) NOTE2	Alt 3 Flexible RLC + MAC-ehs (Rel-8 and later releases) NOTE2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320 (alt. 640)	320 (alt. 640)	Flexible up to 12000
	Max data rate, bps	depends on UE category NOTE 1		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336 (alt. 656)	336 (alt. 656)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/MAC-ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	5 ms	5 ms	5 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24

	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: Alternative 1 is for Rel-5 and later releases. Alternative 2 or 3 is for Rel-8 and later releases. Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternative 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				

6.11.5.4.6.1.2.1.2 Transport channel parameters for DCH

6.11.5.4.6.1.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.11.5.4.6.1.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.11.5.4.6.1.2.2 Physical channel parameters

6.11.5.4.6.1.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.6.1.2.2.2 Physical channel parameters on HS-PDSCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE HS-DSCH Physical Layer category 1(Rel-5 and later releases; QPSK):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	560k bps, (alt. 280 kbps)

UE HS-DSCH Physical Layer category 2(Rel-5 and later releases; QPSK):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	560kbps

UE HS-DSCH Physical Layer category 3(Rel-5 and later releases; QPSK):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	560k bps

UE HS-DSCH Physical Layer category 4(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps, (alt. 600 kbps)

UE HS-DSCH Physical Layer category 5(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps

UE HS-DSCH Physical Layer category 6(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps

UE HS-DSCH Physical Layer category 7(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps, (alt. 800kbps)

UE HS-DSCH Physical Layer category 8(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps

UE HS-DSCH Physical Layer category 9(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps

UE HS-DSCH Physical Layer category 10(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.2 Mbps, (alt. 1.0 Mbps)

UE HS-DSCH Physical Layer category 11(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.2 Mbps

UE HS-DSCH Physical Layer category 12(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	2.2 Mbps

UE HS-DSCH Physical Layer category 13(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.8 Mbps, (alt. 1.4 Mbps)

UE HS-DSCH Physical Layer category 14(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.8 Mbps

UE HS-DSCH Physical Layer category 15(Rel-5 and later releases; QPSK or 16QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes

	Max Data Rate	2.8 Mbps
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UE HS-DSCH Physical Layer category 16(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.2 Mbps, (alt. 1.6 Mbps)

UE HS-DSCH Physical Layer category 17(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.2 Mbps

UE HS-DSCH Physical Layer category 18(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	3.2 Mbps

UE HS-DSCH Physical Layer category 19(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2 Mbps, (alt. 2.1 Mbps)

UE HS-DSCH Physical Layer category 20(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 21(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 22(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2 Mbps, (alt. 2.1 Mbps)

UE HS-DSCH Physical Layer category 23(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 24(Rel-8 and later releases; QPSK ,16QAM or 64QAM):

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 25(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes

	Max Data Rate	3.2Mbps
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UE HS-DSCH Physical Layer category 26(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 27(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes
	Max Data Rate	5.4Mbps

UE HS-DSCH Physical Layer category 28(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes
	Max Data Rate	4.8Mbps

UE HS-DSCH Physical Layer category 29(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes
	Max Data Rate	6.4Mbps

UE HS-DSCH Physical Layer category 30(Rel-8 and later releases; MIMO + QPSK, 16QAM or 64QAM):

HS-PDSCH	Number of processes	16
	Process memory size	Split equally among all processes
	Max Data Rate	8.0Mbps

6.11.5.4.6.1a Interactive or background / UL:8 (multiframe) DL: [max bit rate depending on UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH (multiframe) (REL-5)

6.11.5.4.6.1a.1 Uplink

6.11.5.4.6.1a.1.1 Transport channel parameters

6.11.5.4.6.1a.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps (multiframe) / PS RAB

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320 (alt. 128)
	Max data rate, bps		8 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336 (alt. 144)
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2 124 (alt. 2 412)
	Max number of bits/radio frame before rate matching		1 062 (alt. 1 206)
RM attribute		135 to 175	

6.11.5.4.6.1a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH(multiframe)

See clause 6.11.5.4.1.2a.1.1.1.

6.11.5.4.6.1a.1.1.3 TFCS

See clause 6.10.2.4.1.23d.1.1.3.

6.11.5.4.6.1a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	680bits
	TFPI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Repetition period	8
	Repetition length	2
	Puncturing limit	0.80 (alt. 0.72)

6.11.5.4.6.1a.2 Downlink

6.11.5.4.6.1a.2.1 Transport channel parameters

6.11.5.4.6.1a.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.6.1a.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.6.1.2.1.1.1.

6.11.5.4.6.1a.2.1.2 Transport channel parameters for DCH

6.11.5.4.6.1a.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH (multiframe)

See clause 6.10.3.4.1.2a.2.1.1.

6.11.5.4.6.1a.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.5.4.6.1a.2.2 Physical channel parameters

6.11.5.4.6.1a.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2a.2.2.

6.11.5.4.6.1a.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.6.1b Interactive or background / UL:8 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (64QAM)

6.11.5.4.6.1b.1 Uplink

See clause 6.11.5.4.1.23a.1.

6.11.5.4.6.1b.2 Downlink

6.11.5.4.6.1b.2.1 Transport channel parameters

6.11.5.4.6.1b.2.1.1 Transport channel parameters for HS-DSCH(64QAM)

6.11.5.4.6.1b.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB(64QAM)

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE2	Alt 2 Fixed RLC + MAC-ehs (Rel-8 and later releases) NOTE2	Alt 3 Flexible RLC + MAC-ehs (Rel-8 and later releases) NOTE2
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320 (alt. 640)	320 (alt. 640)	Flexible up to 12000
	Max data rate, bps	depends on UE category NOTE 1		
	AMD PDU header, bit	16	16	16
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336 (alt. 656)	336 (alt. 656)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/MAC-ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	5 ms	5 ms	5 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see 3GPP TS 25.321 [38]).				
NOTE 2: Alternative 1 is for Rel-5 and later releases. Alternative 2 or 3 is for Rel-8 and later releases. Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternative 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.				

6.11.5.4.6.1b.2.1.2 Transport channel parameters for DCH

6.11.5.4.6.1b.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1

6.11.5.4.6.1b.2.1.2.2 TFCS

See clause 6.10.2.4.1.2.2.1.2.

6.11.5.4.6.1b.2.2 Physical channel parameters

6.11.5.4.6.1b.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.6.1b.2.2.2 Physical channel parameters on HS-PDSCH(64QAM)

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE HS-DSCH Physical Layer category 1:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	560k bps, (alt. 280 kbps)

UE HS-DSCH Physical Layer category 2:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	560kbps

UE HS-DSCH Physical Layer category 3:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	560k bps

UE HS-DSCH Physical Layer category 4:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps, (alt. 600 kbps)

UE HS-DSCH Physical Layer category 5:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps

UE HS-DSCH Physical Layer category 6:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	1.1 Mbps

UE HS-DSCH Physical Layer category 7:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps, (alt. 800kbps)

UE HS-DSCH Physical Layer category 8:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps

UE HS-DSCH Physical Layer category 9:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	1.6 Mbps

UE HS-DSCH Physical Layer category 10:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.2 Mbps, (alt. 1.0 Mbps)

UE HS-DSCH Physical Layer category 11:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes

	Max Data Rate	2.2 Mbps
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UE HS-DSCH Physical Layer category 12:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	2.2 Mbps

UE HS-DSCH Physical Layer category 13:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.8 Mbps, (alt. 1.4 Mbps)

UE HS-DSCH Physical Layer category 14:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.8 Mbps

UE HS-DSCH Physical Layer category 15:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	2.8 Mbps

UE HS-DSCH Physical Layer category 16:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.4 Mbps, (alt. 1.6 Mbps)

UE HS-DSCH Physical Layer category 17:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 18:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 19:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.2 Mbps, (alt. 2.1 Mbps)

UE HS-DSCH Physical Layer category 20:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	3.2Mbps

UE HS-DSCH Physical Layer category 21:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	3.2Mbps

UE HS-DSCH Physical Layer category 22:

HS-PDSCH	Number of processes	4, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2 Mbps, (alt. 2.1 Mbps)

UE HS-DSCH Physical Layer category 23:

HS-PDSCH	Number of processes	6, (alt. 8)
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

UE HS-DSCH Physical Layer category 24:

HS-PDSCH	Number of processes	8
	Process memory size	Split equally among all processes
	Max Data Rate	4.2Mbps

6.11.5.4.6.2 Interactive or background / UL:16 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

6.11.5.4.6.2.1 Uplink

See clause 6.11.5.4.1.23b.1.

6.11.5.4.6.2.2 Downlink

See clause 6.11.5.4.6.1.2.

6.11.5.4.6.2a Interactive or background / UL:16(multiframe) DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)

6.11.5.4.6.2a.1 Uplink

6.11.5.4.6.2a.1.1 Transport channel parameters

6.11.5.4.6.2a.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB(multiframe)

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 3x144)
		TF3, bits	3x336 (alt. 7x144)
		TF4, bits	4x336 (alt. 10x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236 (alt. 4 812)	
	Max number of bits/radio frame before rate matching	2 118 (alt. 2 406)	
	RM attribute	130 to 170	

6.11.5.4.6.2a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH(multiframe)

See clause 6.11.5.4.1.2a.1.1.1.

6.11.5.4.6.2a.1.1.3 TFCS

See clause 6.10.2.4.1.26.1.1.3.

6.11.5.4.6.2a.1.2 Physical channel parameters

DPCH Uplink	Physical 1	Physical 2
Modulation	QPSK	QPSK
Codes and time slots / radio frame	SF2 x 1 code x 2 time slots	SF1 x 1 code x 2 time slots
Max. Number of data bits/radio frame	1 384 bits	2 792 bits
TCFI code word / radio frame	16 bits	16 bits
TPC / radio frame	2x2 bits	2x2 bits
SS / radio frame	2x2 bits	2x2 bits
Repetition period	4	8
Repetition length	1	2
Puncturing limit	0.48 (alt. 0.40)	0.96 (alt. 0.84)

6.11.5.4.6.2a.2 Downlink

See clause 6.11.5.4.6.1a.2.

6.11.5.4.6.3 Interactive or background / UL:32 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

6.11.5.4.6.3.1 Uplink

See clause 6.10.3.4.1.23c.1.

6.11.5.4.6.3.2 Downlink

See clause 6.11.5.4.6.1.2.

6.11.5.4.6.3a Interactive or background / UL:32(multiframe) DL: [max bit rate depending on UE category] / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)

6.11.5.4.6.3a.1 Uplink

6.11.5.4.6.3a.1.1 Transport channel parameters

6.11.5.4.6.3a.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB(multiframe)

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320 (alt. 128)
	Max data rate, bps		32 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336 (alt. 144)
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 7x144)
		TF3, bits	4x336 (alt 14x144)
		TF4, bits	8x336 (alt. 20x144)
	TTI, ms		20
Coding type		TC	
CRC, bit		16	

	Max number of bits/TTI after channel coding	8 460 (alt. 9 612)
	Max number of bits/radio frame before rate matching	4 230 (alt. 4 806)
	RMA attribute	120 to 160

6.11.5.4.6.3a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH(multiframe)

See clause 6.11.5.4.1.2a.1.1.1.

6.11.5.4.6.3a.1.1.3 TFCS

See clause 6.10.2.4.1.28.1.1.3.

6.11.5.4.6.3a.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF1 x 1 codes x 2 time slots
	Max. Number of data bits/radio frame	2 792 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Repetition period	8
	Repetition length	2
	Puncturing limit	0.56 (alt. (0.48))

6.11.5.4.6.3a.2 Downlink

See clause 6.11.5.4.6.1a.2.

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

6.11.5.4.6.4.1 Uplink

See clause 6.11.5.4.1.26.1.

6.11.5.4.6.4.2 Downlink

See clause 6.11.5.4.6.1.2.

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

6.11.5.4.6.5.1 Uplink

See clause 6.11.5.4.1.28.1.

6.11.5.4.6.5.2 Downlink

See clause 6.11.5.4.6.1.2.

6.11.5.4.6.6 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

6.11.5.4.6.6.1 Uplink

See clause 6.11.5.4.1.38c.1.

6.11.5.4.6.6.2 Downlink

6.11.5.4.6.6.2.1 Transport channel parameters

6.11.5.4.6.6.2.1.1 Transport channel parameters for HS-DSCH

See clause 6.11.5.4.6.1.2.1.1.

- 6.11.5.4.6.6.2.1.2 Transport channel parameters for DCH
- 6.11.5.4.6.6.2.1.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB
See clause 6.10.2.4.1.4.2.1.1.
- 6.11.5.4.6.6.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
See clause 6.10.2.4.1.2.2.1.1.
- 6.11.5.4.6.6.2.1.2.3 TFCS
See clause 6.10.2.4.1.4.2.1.3.
- 6.11.5.4.6.6.2.2 Physical channel parameters
- 6.11.5.4.6.6.2.2.1 Physical channel parameters on DPCH
See clause 6.10.2.4.1.4.2.2.
- 6.11.5.4.6.6.2.2.2 Physical channel parameters on HS-PDSCH
See clause 6.11.5.4.6.1.2.2.2.
- 6.11.5.4.6.7 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 6.11.5.4.6.7.1 Uplink
See clause 6.11.5.4.1.40.1.
- 6.11.5.4.6.7.2 Downlink
See clause 6.11.5.4.6.6.2.
- 6.11.5.4.6.8 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 6.11.5.4.6.8.1 Uplink
See clause 6.11.5.4.1.51.1.
- 6.11.5.4.6.8.2 Downlink
- 6.11.5.4.6.8.2.1 Transport channel parameters
- 6.11.5.4.6.8.2.1.1 Transport channel parameters for HS-DSCH
See clause 6.11.5.4.6.1.2.1.1.
- 6.11.5.4.6.8.2.1.2 Transport channel parameters for DCH
- 6.11.5.4.6.8.2.1.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB
See clause 6.10.3.4.1.13.2.1.1.
- 6.11.5.4.6.8.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
See clause 6.10.2.4.1.2.2.1.1.
- 6.11.5.4.6.8.2.1.2.3 TFCS
See clause 6.10.3.4.1.13.2.1.3.
- 6.11.5.4.6.8.2.2 Physical channel parameters
- 6.11.5.4.6.8.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.13.2.2.

6.11.5.4.6.8.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.6.9 Interactive or background / UL:64 DL: [bit rate depending on UE category] / PS RAB +
Interactive or background / UL:64 DL: [bit rate depending on UE category] / PS
RAB+UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.6.9.1 Uplink

See clause 6.11.5.4.1.57.1.

6.11.5.4.6.9.2 Downlink

6.11.5.4.6.9.2.1 Transport channel parameters

6.11.5.4.6.9.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.5.4.6.1.2.1.1.1.

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

See clause 6.11.5.4.6.1.2.1.1.1.

6.11.5.4.6.9.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.6.9.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.5.4.6.9.2.2 Physical channel parameters

6.11.5.4.6.9.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.6.9.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.6.10 Conversational/Speech/UL:12.2 DL:12.2kbps/CS RAB + interactive or Background /
UL:64 kbps DL: [bit rate depending on UE category]/PS RAB + interactive or
Background / UL:64 kbps DL: [bit rate depending on UE category]/PS RAB + UL:3.4
DL 3.4 kbps SRB for DCCH

6.11.5.4.6.10.1 Uplink

See clause 6.11.5.4.1.38d.

6.11.5.4.6.10.2 Downlink

6.11.5.4.6.10.2.1 Transport channel parameters

6.11.5.4.6.10.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.5.4.6.1.2.1.1.1.

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

See clause 6.11.5.4.6.1.2.1.1.1.

6.11.5.4.6.10.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.4.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.6.10.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2.

6.11.5.4.6.10.2.2 Physical channel parameters

6.11.5.4.6.10.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.4.2.2.

6.11.5.4.6.10.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.6.11 Streaming/ UL:32 DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.11.1 Uplink

6.11.5.4.6.11.1.1 Transport channel parameters

6.11.5.4.6.11.1.1.1 Transport channel parameters for Streaming/ UL:32 kbps / PS RAB + UL:8 kbps / PS RAB + UL:3.4 kbps SRBs for DCCH

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320 (alt. 128)	320 (alt.128)	
	Max data rate, bps	8 000	32 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	0	0	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	336	336(alt. 144)	
	TFS	TF0, bits	0x336	0x336(alt. 0x144)
		TF1, bits	1x336	1x336(alt. 1x144)
		TF2, bits	2x336	N/A(alt. 5x144)
	TTI, ms	20	40(alt. 80)	
	Coding type	TC	TC	
	CRC, bit	16	16	
	Max number of bits/TTI after channel coding	2124	1068(alt. 2412)	
	Max number of bits/radio frame before rate matching	1062	267(alt. 302)	
RM attribute	135 to 175	135 to 175		

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.6.11.1.1.3 TFCS

TFCS size	12 (alt. 18)
TFCS	(32kbps RAB, 8kbps 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), (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))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.5.4.6.11.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF4 x 1 code x2 timeslots +SF8 x 1 code x2 timeslot
Max. Number of data bits / radio frame	1032 bits	
TFCI code word / radio frame	16 bits	
TPC / radio frame	2x2 bits	
SS / radio frame	2x2 bits	
Puncturing Limit	0.68	

6.11.5.4.6.11.2 Downlink

See clause 6.11.5.4.6.9.2.

6.11.5.4.6.12 Streaming/ UL:16 DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.12.1 Uplink

See clause 6.11.5.4.1.58.1.

6.11.5.4.6.12.2 Downlink

See clause 6.11.5.4.6.9.2.

6.11.5.4.6.13 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + interactive or Background/ UL:384 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.13.1 Uplink

6.11.5.4.6.13.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.34.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.6.13.1.1.4 TFCS

TFCS size	36 (alt. 54)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0),

	(TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1))
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6.11.5.4.6.13.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF1 x 1 code x 6 time slots + SF8 x 1 code x 2 time slots
Max. Number of data bits / radio frame	8776 bits	
TFCI code word / radio frame	16 bits	
TPC / radio frame	2x2 bits	
SS / radio frame	2x2 bits	
Puncturing Limit	0.64	

6.11.5.4.6.13.2 Downlink

See clause 6.11.5.4.6.6.2.

6.11.5.4.6.14 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:16 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.14.1 Uplink

See clause 6.11.5.4.1.67.1.

6.11.5.4.6.14.2 Downlink

See clause 6.11.5.4.6.10.2.

6.11.5.4.6.15 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:32 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.15.1 Uplink

6.11.5.4.6.15.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

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

See clause 6.10.3.4.1.23.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.6.15.1.1.5 TFCS

TFCS size	36
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 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,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0),(TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0),(TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1),(TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1),(TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1),(TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1),(TF2,TF1,TF1,TF2,TF1,TF1)

6.11.5.4.6.15.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF2 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	1384 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.6.15.2 Downlink

See clause 6.11.5.4.6.10.2.

6.11.5.4.6.16 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming/ UL:64 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.16.1 Uplink

6.11.5.4.6.16.1.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.1.1.1.

6.11.5.4.6.16.1.1.2 Transport channel parameters for Streaming / unknown / UL:64 kbps / PS RAB

See clause 6.10.3.4.1.26.1.1.1.

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

See clause 6.10.3.4.1.23a.1.1.1.

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.6.16.1.1.5 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 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, TF1), (TF1, TF0, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF0, 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), (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)

6.11.5.4.6.16.1.2 Physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / frame	SF2 x 1 code x 2 time slots + SF4 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	2028 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.52

6.11.5.4.6.16.2 Downlink

See clause 6.11.5.4.6.10.2.

6.11.5.4.6.17 Streaming/ UL:64 kbps DL:[Rate depending on UE category]/ PS RAB + interactive or Background/ UL:8 kbps DL:[Rate depending on UE category]/ PS RAB + UL:3.4 DL 3.4 kbps SRB for DCCH

6.11.5.4.6.17.1 Uplink

See clause 6.11.5.4.1.51a.1.

6.11.5.4.6.17.2 Downlink

See clause 6.11.5.4.6.9.2.

6.11.5.4.7 Combinations on HS-PDSCH and E-PUCH

6.11.5.4.7.1 Stand-alone UL: [max bit rate depending on UE category and TTI] DL:[max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.5.4.7.1.1 Uplink

6.11.5.4.7.1.1.1 Transport channel parameters

6.11.5.4.7.1.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.1.1.1.1.1 MAC-d flow parameters for Stand-alone UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

		Alt 1 Fixed RLC + MAC- e/es (Rel-7 and later) NOTE 1	Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE 1	Alt 3 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 1
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320	320	Flexible from 80 up to 12000 (NOTE 2)
	Max data rate, bps	Depends on UE category and TTI		
	AMD PDU header, bit	16		
MAC	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336	336	Flexible from 96 up to 12016
	MAC type	MAC-e/es	MAC-i/is	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24	24
Layer 1	TrCH type	E-DCH		
	TTI	5ms		
	Coding type	TC		
	CRC, bit	24		
NOTE 1: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) or 3 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.				
NOTE 2: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.				

6.11.5.4.7.1.1.2 Physical channel parameters

6.11.5.4.7.1.1.2.1 Physical channel parameters on E-PUCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE E-PUCH Physical Layer category 1(Rel-7 and later releases; QPSK):

E-PUCH	Number of processes	4
	TTI	5 ms
	Max Data Rate	0.5508 Mbps

UE E-PUCH Physical Layer category 2 (Rel-7 and later releases; QPSK):

E-PUCH	Number of processes	4
	TTI	5ms
	Max Data Rate	0.8324 Mbps

UE E-PUCH Physical Layer category 3 (Rel-7 and later releases; QPSK or 16QAM):

E-PUCH	Number of processes	4
	TTI	5 ms
	Max Data Rate	1.1064 Mbps

UE E-PUCH Physical Layer category 4 (Rel-7 and later releases; QPSK or 16QAM):

E-PUCH	Number of processes	4
	TTI	5 ms
	Max Data Rate	1.6696 Mbps

UE E-PUCH Physical Layer category 5 (Rel-7 and later releases; QPSK or 16QAM):

E-PUCH	Number of processes	4
	TTI	5 ms
	Max Data Rate	2.232 Mbps

UE E-PUCH Physical Layer category 6 (Rel-7 and later releases; QPSK or 16QAM):

E-PUCH	Number of processes	4
	TTI	5 ms
	Max Data Rate	2.232 Mbps

6.11.5.4.7.1.2 Downlink

6.11.5.4.7.1.2.1 Transport channel parameters

6.11.5.4.7.1.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.7.1.2.1.1.1 MAC-d flow parameters for Stand-alone DL: [max bit rate depending on UE category] SRBs for HS-DSCH

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE				Alt 2 Fixed RLC + MAC-ehs (Rel-8 and later releases) NOTE			
Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128	136	128	128	128
	Max data rate, bps	Depends on UE category and TTI							
	AMD PDU header, bit	8	16	16	16	8	16	16	16
MAC	MAC-d header, bit	4	4	4	4	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing				4 logical channel multiplexing			
	MAC-d PDU size, bit	148				148			
	MAC type	MAC-hs				MAC-ehs			
	MAC-hs / MAC-ehs header fixed part, bit	18				24			
Layer 1	TrCH type	HS-DCH				HS-DCH			
	TTI	5ms				5ms			
	Coding type	TC				TC			
	CRC, bit	24				24			
NOTE : Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) then this shall be explicitly stated in the test case.									

6.11.5.4.7.1.2.2 Physical channel parameters

6.11.5.4.7.1.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.7.2 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.2.1 Uplink

- 6.11.5.4.7.2.1.1 Transport channel parameters
- 6.11.5.4.7.2.1.1.1 Transport channel parameters for E-DCH
- 6.11.5.4.7.2.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.1.1.1.1.1.

- 6.11.5.4.7.2.1.1.2 Transport channel parameters for DCH
- 6.11.5.4.7.2.1.1.2.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.5.4.1.2.1.1.1.

- 6.11.5.4.7.2.1.2 Physical channel parameters
- 6.11.5.4.7.2.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

- 6.11.5.4.7.2.1.2.2 Physical channel parameters for DPCH

See clause 6.11.5.4.1.2.1.2

- 6.11.5.4.7.2.2 Downlink

See clause 6.11.5.4.6.1.2.

- 6.11.5.4.7.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

- 6.11.5.4.7.3.1 Uplink

- 6.11.5.4.7.3.1.1 Transport channel parameters

- 6.11.5.4.7.3.1.1.1 Transport channel parameters for E-DCH

- 6.11.5.4.7.3.1.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.1.1.1.1.1.

- 6.11.5.4.7.3.1.1.1.2 MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

		Alt 1 Fixed RLC + MAC-e/es (Rel-6 and later releases) NOTE				Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE			
Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128	136	128	128	128
	Max data rate, bps	Depends on UE category and TTI							
	AMD PDU header, bit	8	16	16	16	8	16	16	16
MAC	MAC-es multiplexing	4 logical channel multiplexing				4 logical channel multiplexing			
	MAC-d PDU size, bit	144				144			
	MAC type	MAC-e/es				MAC-i/is			
	MAC-e/es / MAC-i/is header fixed part, bit	18				24			
Layer 1	TrCH type	E-DCH				E-DCH			
	TTI	5ms				5ms			
	Coding type	TC				TC			
	CRC, bit	24				24			

NOTE : Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-i/is) then this shall be explicitly stated in the test case.

6.11.5.4.7.3.1.2 Physical channel parameters

6.11.5.4.7.3.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.3.2 Downlink

See clause 6.11.5.4.6.1.2.

6.11.5.4.7.4 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.5.4.7.4.1 Uplink

See clause 6.11.5.4.7.1.1.

6.11.5.4.7.4.1.2 Physical channel parameters

6.11.5.4.7.4.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.4.2 Downlink

6.11.5.4.7.4.2.1 Transport channel parameters

6.11.5.4.7.4.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.7.4.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.6.1.2.1.1.1.

6.11.5.4.7.4.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.11.5.4.7.1.2.1.1.1

6.11.5.4.7.4.2.2 Physical channel parameters

6.11.5.4.7.4.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.7.5 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.5.1 Uplink

6.11.5.4.7.5.1.1 Transport channel parameters

6.11.5.4.7.5.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.5.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.1.1.1.1.1.

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

See clause 6.11.5.4.1.4.1.1.1.

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

See clause 6.11.5.4.1.2.1.1.1.

6.11.5.4.7.5.1.1.4 TFCS

See clause 6.11.5.4.1.4.1.1.3.

6.11.5.4.7.5.1.2 Physical channel parameters

6.11.5.4.7.5.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.5.1.2.2 Physical channel parameters on DCH

See clause 6.11.5.4.1.4.1.2.

6.11.5.4.7.5.2 Downlink

See clause 6.11.5.4.6.6.2.

6.11.5.4.7.6 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.6.1 Uplink

6.11.5.4.7.6.1.1 Transport channel parameters

6.11.5.4.7.6.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.6.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	Max data rate, bps	Depends on UE category and TTI
	UMD PDU header, bit	8
MAC	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-e/es header fixed part, bit	18
Layer 1	TrCH type	E-DCH
	TTI	5ms
	Coding type	TC
	CRC, bit	24

6.11.5.4.7.6.1.1.2 Transport channel parameters for DCH

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

See clause 6.11.5.4.1.2.1.1.1.

6.11.5.4.7.6.1.2 Physical channel parameters

6.11.5.4.7.6.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.6.1.2.2 Physical channel parameters for DPCH

See clause 6.11.5.4.1.2.1.2

6.11.5.4.7.6.2 Downlink

6.11.5.4.7.6.2.1 Transport channel parameters

6.11.5.4.7.6.2.1.1 Transport channel parameters for HS-DSCH

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	Max data rate, bps	Depends on UE category and TTI
	UMD PDU header, bit	8
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-e/es header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	5ms
	Coding type	TC
	CRC, bit	24
NOTE: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).		

6.11.5.4.7.6.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.5.4.1.2.2.1.1.

6.11.5.4.7.6.2.1.2.2 TFCS

See clause 6.11.5.4.1.2.2.1.2.

6.11.5.4.7.6.2.2 Physical channel parameters

6.11.5.4.7.6.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.7.6.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.7.7 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] + UL: [max bit rate depending on UE category and TTI] DL: 3.4 kbps SRBs for DCCH on E-DCH and DL DCH

6.11.5.4.7.7.1 Uplink

6.11.5.4.7.7.1.1 Transport channel parameters

6.11.5.4.7.7.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.7.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2.

6.11.5.4.7.7.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.6.1.1.1.1

6.11.5.4.7.7.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.6.1.1.1.1

6.11.5.4.7.7.1.2 Physical channel parameters

6.11.5.4.7.7.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.7.2 Downlink

6.11.5.4.7.7.2.1 Transport channel parameters

6.11.5.4.7.7.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.7.7.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.7.6.2.1.1.1.

6.11.5.4.7.7.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.7.6.2.1.1.1.

6.11.5.4.7.7.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.5.4.1.2.2.1.1.

6.11.5.4.7.7.2.1.2.2 TFCS

See clause 6.11.5.4.1.2.2.1.2.

6.11.5.4.7.7.2.2 Physical channel parameters

6.11.5.4.7.7.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.7.7.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.7.8 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.8.1 Uplink

See clause 6.11.5.4.7.2.1.

6.11.5.4.7.8.2 Downlink

See clause 6.11.5.4.1.32.2.

6.11.5.4.7.9 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.9.1 Uplink

See clause 6.11.5.4.7.2.1.

6.11.5.4.7.9.2 Downlink

See clause 6.11.5.4.1.27.2.

6.11.5.4.7.10 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.10.1 Uplink

See clause 6.11.5.4.7.2.1.

6.11.5.4.7.10.2 Downlink

See clause 6.11.5.4.1.25.2.

6.11.5.4.7.11 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.11.1 Uplink

See clause 6.11.5.4.7.2.1.

6.11.5.4.7.11.2 Downlink

See clause 6.11.5.4.1.23d.2.

6.11.5.4.7.12 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.12.1 Uplink

6.11.5.4.7.12.1.1 Transport channel parameters

6.11.5.4.7.12.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.12.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2.

6.11.5.4.7.12.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.6.1.1.1.1

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

See clause 6.11.5.4.1.2.1.1.1.

6.11.5.4.7.12.1.2 Physical channel parameters

6.11.5.4.7.12.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.12.1.2.2 Physical channel parameters for DPCH

See clause 6.11.5.4.1.2.1.2

6.11.5.4.7.12.2 Downlink

See clause 6.11.5.4.1.57.2.

6.11.5.4.7.13 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.13.1 Uplink

See clause 6.11.5.4.7.5.1.

6.11.5.4.7.13.2 Downlink

See clause 6.11.5.4.1.43.2.

6.11.5.4.7.14 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.14.1 Uplink

See clause 6.11.5.4.7.5.1.

6.11.5.4.7.14.2 Downlink

See clause 6.11.5.4.1.39.2.

6.11.5.4.7.15 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.15.1 Uplink

6.11.5.4.7.15.1.1 Transport channel parameters

6.11.5.4.7.15.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.15.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2.

6.11.5.4.7.15.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.6.1.1.1.1

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

See clause 6.11.5.4.1.4.1.1.1.

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

See clause 6.11.5.4.1.2.1.1.1.

6.11.5.4.7.15.1.1.4 TFCS

See clause 6.11.5.4.1.4.1.1.3.

6.11.5.4.7.15.1.2 Physical channel parameters

6.11.5.4.7.15.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.15.1.2.2 Physical channel parameters on DPCH

See clause 6.11.5.4.1.4.1.2.

6.11.5.4.7.15.2 Downlink

See clause 6.11.5.4.1.38d.2.

6.11.5.4.7.16 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.16.1 Uplink

See clause 6.11.5.4.7.15.1.

6.11.5.4.7.16.2 Downlink

See clause 6.11.5.4.1.67.2.

6.11.5.4.7.17 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.17.1 Uplink

See clause 6.11.5.4.7.15.1.

6.11.5.4.7.17.2 Downlink

6.11.5.4.7.17.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.7.17.2.1.2 Transport channel parameters for Streaming or interactive or background / DL: 32 kbps / PS RAB

See clause 6.10.3.4.1.23d.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.7.17.2.1.4 TFCS

TFCS size	36
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 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, TF0, TF1, TF0), (TF1, TF0, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF0, TF1, TF0), (TF0, TF0, TF0, TF1, TF1, TF0), (TF1, TF0, TF0, TF1, TF1, TF0), (TF2, TF1, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF1, TF0), (TF1, TF0, TF0, TF2, TF1, TF0), (TF2, TF1, TF1, TF2, TF1, TF0), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF0, TF1), (TF0, TF0, TF0, TF1, TF0, TF1), (TF1, TF0, TF0, TF1, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF2, TF0, TF1), (TF1, TF0, TF0, TF2, TF0, TF1), (TF2, TF1, TF1, TF2, TF0, TF1), (TF0, TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF1, TF1, TF1), (TF1, TF0, TF0, TF1, TF1, TF1), (TF2, TF1, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1, TF1), (TF1, TF0, TF0, TF2, TF1, TF1), (TF2, TF1, TF1, TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.5.4.7.17.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	1384 bits
	TFCI code word / radio frame	16 bits

	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.7.18 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 16 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.5.4.7.18.1 Uplink

See clause 6.11.5.4.7.15.1.

6.11.5.4.7.18.2 Downlink

6.11.5.4.7.18.2.1 Transport channel parameters

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

See clause 6.10.3.4.1.4.2.1.1.

6.11.5.4.7.18.2.1.2 Transport channel parameters for Streaming or interactive or background / DL: 16 kbps / PS RAB

See clause 6.10.3.4.1.23b.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.7.18.2.1.4 TFCS

TFCS size	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, TF2, TF0, TF0), (TF1, TF0, TF0, TF2, TF0, TF0), (TF2, TF1, TF1, TF2, TF0, TF0), (TF0, TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF0, TF1, TF0), (TF0, TF0, TF0, TF1, TF1, TF0), (TF1, TF0, TF0, TF1, TF1, TF0), (TF2, TF1, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF1, TF0), (TF1, TF0, TF0, TF2, TF1, TF0), (TF2, TF1, TF1, TF2, TF1, TF0), (TF0, TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF0, TF1), (TF0, TF0, TF0, TF1, TF0, TF1), (TF1, TF0, TF0, TF1, TF0, TF1), (TF2, TF1, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF2, TF0, TF1), (TF1, TF0, TF0, TF2, TF0, TF1), (TF2, TF1, TF1, TF2, TF0, TF1), (TF0, TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF0, TF1, TF1), (TF0, TF0, TF0, TF1, TF1, TF1), (TF1, TF0, TF0, TF1, TF1, TF1), (TF2, TF1, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1, TF1), (TF1, TF0, TF0, TF2, TF1, TF1), (TF2, TF1, TF1, TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.5.4.7.18.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF 16 x 6 codes x 2 time slots
	Max. Number of data bits/radio frame	1032 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.56

6.11.5.4.7.19 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:64 kbps / PS RAB + Streaming or interactive or background / UL: [max bit

rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.19.1 Uplink

See clause 6.11.5.4.7.12.1.

6.11.5.4.7.19.2 Downlink

See clause 6.11.5.4.1.58.2.

6.11.5.4.7.20 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 32 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.20.1 Uplink

See clause 6.11.5.4.7.12.1.

6.11.5.4.7.20.2 Downlink

See clause 6.11.5.4.1.63.2.

6.11.5.4.7.21 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: 16 kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

6.11.5.4.7.21.1 Uplink

See clause 6.11.5.4.7.12.1.

6.11.5.4.7.21.2 Downlink

6.11.5.4.7.21.2.1 Transport channel parameters

6.11.5.4.7.21.2.1.1 Transport channel parameters for Streaming or interactive or background / DL: 16 kbps / PS RAB

See clause 6.10.3.4.1.23b.2.1.1.

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

See clause 6.10.3.4.1.23.2.1.1.

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.7.21.2.1.4 TFCS

TFCS size	12
TFCS	(16 kbps RAB, 8 kbps 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)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.5.4.7.21.2.2 Physical channel parameters

DPCH Downlink	Modulation	QPSK
	Codes and time slots / radio frame	SF16 x 4 code x 2 time slots
	Max. Number of data bits / radio frame	680 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits

	SS / radio frame	2x2 bits
	Puncturing Limit	0.60

6.11.5.4.7.22 Conversational / unknown or speech / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.5.4.7.22.1 Uplink

6.11.5.4.7.22.1.1 Transport channel parameters

6.11.5.4.7.22.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.7.22.1.1.1.1 MAC-d flow #1 parameters for Conversational / unknown or speech / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE 2	Alt 2 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE 1
Higher layer	RAB/Signalling RB	RAB	
PDCP	PDCP header size, bit	0	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	88, 104, 136, 152, 168, 184, 200, 216, 280, 288, 304, 336 (alt 328)	Flexible from 88 up to 12000 (NOTE 2)
	Max data rate, bps	Depends on UE category and TTI	
	UMD PDU header, bit	8	
MAC	MAC multiplexing	N/A	
	MAC-d PDU size, bit	96, 112, 144, 160, 176, 192, 208, 224, 288, 296, 312, 344 (alt 336)	Flexible from 96 up to 12008
	MAC type	MAC-e/es	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24
Layer 1	TrCH type	E-DCH	
	TTI	5ms	
	Coding type	TC	
	CRC, bit	24	
NOTE 1: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.			
NOTE 2: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

6.11.5.4.7.22.1.1.1.2 MAC-d flow #2 parameters for Streaming or Interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.7.1.1.1.1.1.

6.11.5.4.7.22.1.1.1.3 MAC-d flow #3 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2.

6.11.5.4.7.22.1.2 Physical channel parameters

6.11.5.4.7.22.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.7.22.2 Downlink

6.11.5.4.7.22.2.1 Transport channel parameters

6.11.5.4.7.22.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.7.22.2.1.1.1 MAC-d flow#1 parameters for Conversational / unknown or speech / DL: [max bit rate depending on UE category] kbps / PS RAB

		Alt 1 Fixed RLC + MAC-hs (Rel-5 and later releases) NOTE 2	Alt 2 Fixed RLC + MAC-ehs (Rel-7 and later releases) NOTE 2	Alt 3 Flexible RLC + MAC-ehs (Rel-7 and later releases) NOTE 2
Higher Layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	UM		
	Payload sizes, bit	104, 136, 152, 168, 184, 216, 288, 336 (alt 328)	104, 136, 152, 168, 184, 216, 288, 336 (alt 328)	Flexible up to 12000 (NOTE 3)
	Max data rate, bps	depends on UE category NOTE 1		
	UMD PDU header, bit	8	8	8
MAC	MAC-d header, bit	0	0	0
	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	112 , 144, 160, 176, 192, 224, 296, 344 (alt 336)	112 , 144, 160, 176, 192, 224, 296, 344 (alt 336)	Flexible
	MAC-hs Type	MAC-hs	MAC-ehs	MAC-ehs
	MAC-hs/ehs header fixed part, bit	21	24	24
Layer 1	TrCH type	HS-DSCH	HS-DSCH	HS-DSCH
	TTI	5 ms	5 ms	5 ms
	Coding type	TC	TC	TC
	CRC, bit	24	24	24
	Applicable modulation schemes	QPSK, 16QAM	QPSK, 16QAM, 64QAM	QPSK, 16QAM, 64QAM
	Applicable with MIMO	No	Yes	Yes
	Applicable with Dual-Cell HSDPA	No	Yes	Yes
NOTE 1:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).			
NOTE 2:	Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternatives 2 (Fixed RLC + MAC-ehs) or 3 (Flexible RLC + MAC-ehs) then this shall be explicitly stated in the test case.			
NOTE 3:	The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter "Max SDU size", ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits.			

6.11.5.4.7.22.2.1.1.2 MAC-d flow#2 parameters for Streaming or Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.6.1.2.1.1.1.

6.11.5.4.7.22.2.1.1.3 MAC-d flow#3 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.11.5.4.7.1.2.1.1.1.

6.11.5.4.7.22.2.2 Physical channel parameters

6.11.5.4.7.22.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.8 Reference Radio Bearer configurations used in MAC-ehs testing

6.11.5.4.8.1 3 x Interactive or background / UL: 8 kbps DL: [max bit rate depending on UE category] / UM PS RAB

This reference radio bearer configuration is used by the MAC-ehs test case 7.1.x.x in 3GPP TS 34.123-1 [1].

6.11.5.4.8.1.1 Uplink

6.11.5.4.8.1.1.1 Uplink Transport channel parameters for DCH

6.11.5.4.8.1.1.1.1 Transport channel parameters for 3 x Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6	RB7
RLC	Logical channel type	DTCH	DTCH	DTCH
	RLC mode	UM	UM	UM
	Payload sizes, bit	328	328	320
	Max data rate, bps	8 200	8 200	8 000
	UMD/AMD PDU header, bit	8	8	8
MAC	MAC header, bit	4	4	4
	MAC multiplexing	3 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
	TTI, ms	40		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080		
	Uplink: Max number of bits/radio frame before rate matching	270		
	RM attribute	135 to 175		

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.8.1.1.1.3 Uplink TFCS

TFCS size	4
TFCS	(5x8 kbps PS RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

6.11.5.4.8.1.1.2 Uplink physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.68)

6.11.5.4.8.1.2 Downlink

6.11.5.4.8.1.2.1 Transport channel parameters for HS-DSCH

6.11.5.4.8.1.2.1.1 parameters for 3 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB5	RB6	RB7
RLC	Logical channel type	DTCH	DTCH	DTCH
	RLC mode	UM	UM	UM
	Payload sizes, bit	328	328	328
	Max data rate, bps	depends on UE category		
	UMD PDU header, bit	8	8	8
MAC-d	MAC-d header, bit	None		
	MAC multiplexing	None		
	MAC-d PDU size, bit	336		

6.11.5.4.8.1.2.1.2 MAC-ehs and Layer 1 parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

MAC-ehs	MAC-ehs header fixed part, bit	FFS
Layer 1	TrCH type	HS-DSCH
	TTI	5 ms
	Coding type	TC
	CRC, bit	24

6.11.5.4.8.1.2.2 Downlink Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.8.1.2.2.2 Downlink TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

6.11.5.4.8.1.2.3 Downlink physical channel parameters

6.11.5.4.8.1.2.3.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.8.1.2.3.2 Physical channel parameters on HS-PDSCH

UE HS-DSCH Physical Layer:

HS-PDSCH	Number of processes	2
	Process memory size	Split equally among all processes
	Max Data Rate	Depending on UE category

6.11.5.4.8.2 1 x Interactive or background / UL: 8 kbps DL: [max bit rate depending on UE category] / UM PS RAB

This reference radio bearer configuration is used by the MAC-ehs test case 7.1.x.x in 3GPP TS 34.123-1 [1].

6.11.5.4.8.2.1 Uplink

6.11.5.4.8.2.1.1 Uplink Transport channel parameters for DCH

6.11.5.4.8.2.1.1.1 Transport channel parameters for 1 x Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RB5	
RLC	Logical channel type	DTCH	
	RLC mode	UM	
	Payload sizes, bit	328	
	Max data rate, bps	8 200	
	UMD/AMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 080	
	Uplink: Max number of bits/radio frame before rate matching	270	
	RM attribute	135 to 175	

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

See clause 6.10.3.4.1.2.1.1.1.

6.11.5.4.8.2.1.1.3 Uplink TFCS

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

6.11.5.4.8.2.1.2 Uplink physical channel parameters

DPCH Uplink	Modulation	QPSK
	Codes and time slots / radio frame	SF 8 x 1 code x 2 time slots
	Max. Number of data bits / radio frame	328 bits
	TFCI code word / radio frame	16 bits
	TPC / radio frame	2x2 bits
	SS / radio frame	2x2 bits
	Puncturing Limit	0.72 (alt 0.68)

6.11.5.4.8.2.2 Downlink

6.11.5.4.8.2.2.1 Transport channel parameters for HS-DSCH

6.11.5.4.8.2.2.1.1 parameters for 1 x Interactive or background / DL: [max bit rate depending on UE category] / PS RAB

Higher layer	RAB/Signalling RB	RB5
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	328
	Max data rate, bps	depends on UE category
	UMD PDU header, bit	8
MAC-d	MAC-d header, bit	None
	MAC multiplexing	None
	MAC-d PDU size, bit	336
MAC-ehs	MAC-ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI	2 ms
	Coding type	TC
	CRC, bit	24

6.11.5.4.8.2.2.2 Downlink Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.8.2.2.2.2 Downlink TFCS

TFCS size	2
TFCS	SRBs for DCCH = TF0, TF1

6.11.5.4.8.2.2.3 Downlink physical channel parameters

6.11.5.4.8.2.2.3.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.8.2.2.3.2 Physical channel parameters on HS-PDSCH

UE HS-DSCH Physical Layer:

HS-PDSCH	Number of processes	2
	Process memory size	Split equally among all processes
	Max Data Rate	Depending on UE category

- 6.11.5.4.9 Reference Radio Bearer configurations used in Improved L2 UL testing
- 6.11.5.4.9.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 6.11.5.4.9.1.1 Uplink
- 6.11.5.4.9.1.1.1 Transport channel parameters
- 6.11.5.4.9.1.1.1.1 Transport channel parameters for E-DCH
- 6.11.5.4.9.1.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

		Alt 1 Fixed RLC + MAC- e/es (Rel-6 and later) NOTE	Alt 2 Fixed RLC + MAC-i/is (Rel-8 and later releases) NOTE	Alt 3 Flexible RLC + MAC- i/is (Rel-8 and later releases) NOTE
Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	UM		
	Payload sizes, bit	328	328	Flexible up to 12000
	Max data rate, bps	Depends on UE category and TTI		
	UMD PDU header, bit	8		
MAC	MAC multiplexing	N/A	N/A	N/A
	MAC-d PDU size, bit	336	336	Flexible
	MAC type	MAC-e/es	MAC-i/is	MAC-i/is
	MAC-e/es / MAC-i/is header fixed part, bit	18	24	24
Layer 1	TrCH type	E-DCH		
	TTI	5ms		
	Coding type	TC		
	CRC, bit	24		
NOTE : Alternative 3 with Flexible RLC + MAC-i/is is the default configuration. For test cases that use alternatives 1 (Fixed RLC + MAC-e/es) or 2 (Fixed RLC + MAC-i/is) then this shall be explicitly stated in the test case.				

- 6.11.5.4.9.1.1.1.1.2 Transport channel parameters for DCH
- 6.11.5.4.9.1.1.1.1.2.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.10.3.4.1.2.1.1.1
- 6.11.5.4.9.1.1.2 Physical channel parameters
- 6.11.5.4.9.1.1.2.1 Physical channel parameters on E-PUCH
- See clause 6.11.5.4.7.1.1.2.1
- 6.11.5.4.9.1.1.2.2 Physical channel parameters on DPCH
- See clause 6.11.5.4.1.2.1.2
- 6.11.5.4.9.1.2 Downlink
- 6.11.5.4.9.1.2.1 Transport channel parameters
- 6.11.5.4.9.1.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.5.4.9.1.2.1.1.1 MAC-d flow parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

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

	Payload sizes, bit	Flexible up to 12000
	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	Flexible
	MAC-ehs header fixed part, bit	24
Layer 1	TrCH type	HS-DSCH
	TTI	5 ms
	Coding type	TC
	CRC, bit	24
NOTE: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]).		

6.11.5.4.9.1.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.9.1.2.2 Physical channel parameters

6.11.5.4.9.1.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.9.1.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.9.2 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.5.4.9.2.1 Uplink

6.11.5.4.9.2.1.1 Transport channel parameters

6.11.5.4.9.2.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.9.2.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2, alt 2

6.11.5.4.9.2.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.9.1.1.1.1.1, alt 3

6.11.5.4.9.2.1.2 Physical channel parameters

6.11.5.4.9.2.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1

6.11.5.4.9.2.2 Downlink

6.11.5.4.9.2.2.1 Transport channel parameters

6.11.5.4.9.2.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.9.2.2.1.1.1 MAC-d flow#0 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.9.1.2.1.1.1

6.11.5.4.9.2.2.1.1.2 MAC-d flow#1 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.11.5.4.6.1.2.1.1.1, alt 2.

6.11.5.4.9.2.2.2 Physical channel parameters

6.11.5.4.9.2.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.9.2.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.9.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] with Flexible RLC and MAC-ehs SRBs for DCCH on E-DCH and HS-DSCH

6.11.5.4.9.3.1 Uplink

6.11.5.4.9.3.1.1 Transport channel parameters

6.11.5.4.9.3.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.9.3.1.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.9.1.1.1.1.1, alt 3.

6.11.5.4.9.3.1.1.1.2 MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2, alt 2.

6.11.5.4.9.3.2.1.2 Physical channel parameters

6.11.5.4.9.3.2.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.9.3.2.2 Downlink

6.11.5.4.9.3.2.2.1 Transport channel parameters

6.11.5.4.9.3.2.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.9.3.2.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.6.1.2.1.1.1, alt 3

6.11.5.4.9.3.2.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.11.5.4.7.4.2.1.1.2, alt 2.

6.11.5.4.9.3.2.2.2 Physical channel parameters

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.9.3.2.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.11.5.4.6.1.2.2.2.

6.11.5.4.9.4 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + 3.4 kbps SRBs for DCCH on E-DCH and DL DCH

6.11.5.4.9.4.1 Uplink

6.11.5.4.9.4.1.1 Transport channel parameters

6.11.5.4.9.4.1.1.1 Transport channel parameters for E-DCH

6.11.5.4.9.4.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.5.4.7.3.1.1.1.2, alt 2.

6.11.5.4.9.4.1.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.9.1.1.1.1.1, alt 3.

6.11.5.4.9.4.1.1.1.3 MAC-d flow#3 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.9.1.1.1.1.1, alt 3.

6.11.5.4.9.4.1.1.1.4 MAC-d flow#4 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

See clause 6.11.5.4.9.1.1.1.1.1, alt 3.

6.11.5.4.9.4.1.2 Physical channel parameters

6.11.5.4.9.4.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.5.4.7.1.1.2.1.

6.11.5.4.9.4.2 Downlink

6.11.5.4.9.4.2.1 Transport channel parameters

6.11.5.4.9.4.2.1.1 Transport channel parameters for HS-DSCH

6.11.5.4.9.4.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.9.1.2.1.1.1.

6.11.5.4.9.4.2.1.1.2 MAC-d flow#2 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.9.1.2.1.1.1.

6.11.5.4.9.4.2.1.1.2 MAC-d flow#3 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.5.4.9.1.2.1.1.1.

6.11.5.4.9.4.2.1.2 Transport channel parameters for DCH

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

See clause 6.10.3.4.1.2.2.1.1.

6.11.5.4.9.4.2.1.2.2 TFCS

See clause 6.10.3.4.1.2.2.1.2

6.11.5.4.9.4.2.2 Physical channel parameters

6.11.5.4.9.4.2.2.1 Physical channel parameters on DPCH

See clause 6.11.5.4.1.2.2.2.

6.11.5.4.9.4.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.5.4.6.1.2.2.2.

6.11.6 Reference Radio Bearer configurations used in Radio Bearer testing for 7.68 Mcps TDD

6.11.6.1 RABs and signalling RBs

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

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

Table 6.11.6.1.1: Prioritized RABs

#	Traffic class ^[3]	SSD ^[3]	Max. rate, kbps	CS/PS
1	Conversational	Speech	UL:12.2 DL:12.2	CS
1a	Conversational	Speech	UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75)	CS
2	Conversational	Speech	UL:10.2 DL:10.2	CS
2a	Conversational	Speech	UL:(10.2 , 6.7, 5.9, 4.75) DL:10.2, 6.7, 5.9, 4.75)	CS
3	Conversational	Speech	UL:7.95 DL:7.95	CS
4	Conversational	Speech	UL:7.4 DL:7.4	CS
4a	Conversational	Speech	UL:(12.2 7.95 5.9 4.75, DL:(12.2 7.95 5.9 4.75)	CS
5	Conversational	Speech	UL:6.7 DL:6.7	CS
6	Conversational	Speech	UL:5.9 DL:5.9	CS
7	Conversational	Speech	UL:5.15 DL:5.15	CS
8	Conversational	Speech	UL:4.75 DL:4.75	CS
9	Conversational	Unknown	UL:28.8 DL:28.8	CS
10	Conversational	Unknown	UL:64 DL:64	CS
11	Conversational	Unknown	UL:32 DL:32	CS
11a	Conversational	Unknown	UL:8 DL:8	CS
12	Streaming	Unknown	UL:14.4 DL:14.4	CS
13	Streaming	Unknown	UL:28.8 DL:28.8	CS
14	Streaming	Unknown	UL:57.6 DL:57.6	CS
15	Void			
15a	Streaming	Unknown	UL:16 DL:64	PS
16	Void			
17	Void			
18	Void			
19	Void			
20	Interactive or Background	N/A	UL:32 DL:8	PS
20a	Interactive or Background	N/A	UL:8 DL:8	PS

#	Traffic class ^[3]	SSD ^[3]	Max. rate, kbps	CS/PS
20b	Interactive or Background	N/A	UL:16 DL:16	PS
20c	Interactive or Background	N/A	UL:32 DL:32	PS
21	Void			
22	Interactive or Background	N/A	UL:32 DL:64	PS
23	Interactive or Background	N/A	UL:64 DL:64	PS
24	Interactive or Background	N/A	UL:64 DL:128	PS
25	Interactive or Background	N/A	UL:128 DL:128	PS
26	Interactive or Background	N/A	UL:64 DL:384	PS
27	Interactive or Background	N/A	UL:128 DL:384	PS
28	Interactive or Background	N/A	UL:384 DL:384	PS
29	Interactive or Background	N/A	UL:64 DL:2048	PS
30	Interactive or Background	N/A	UL:128 DL:2048	PS
31	Void			
32	Interactive or Background	N/A	UL:64 DL:256	PS
33	Interactive or Background	N/A	UL:0 DL:32	PS
34	Interactive or Background	N/A	UL:32 DL:0	PS
35	Interactive or Background	N/A	UL:64 DL:144	PS
36	Interactive or Background	N/A	UL:144 DL:144	PS

Table 6.11.6.1.2: Signalling RBs

#	Maximum rate, kbps	Logical channel	PhyCh onto which SRBs are mapped
1	UL:1.7 DL:1.7	DCCH	DPCH
2	UL:3.4 DL:3.4	DCCH	DPCH
3	UL:13.6 DL:13.6	DCCH	DPCH
4	DL:27.2 (alt. 13.6)	DCCH	SCCPCH
5	UL:16.8	CCCH	PRACH
6	DL:32 (alt. 16)	CCCH	SCCPCH
7	DL:33.6 (alt. 16.8)	BCCH	SCCPCH
8	DL:12 (alt. 8)	PCCH	SCCPCH
9	UL:16.8	SHCCH	PRACH
10	UL:16.8	SHCCH	PRACH or PUSCH
11	DL:32 (alt. 16)	SHCCH	SCCPCH
12	DL:16	SHCCH	SCCPCH or PDSCH

6.11.6.2 Combinations of RABs and Signalling RBs

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

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

Combinations on DPCH

- 1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH.
 - 1a) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (multiframe).
- 2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH.
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 4a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.

- 5a) Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 7a) Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for 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:28.8 DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 13) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14) Conversational / unknown / UL:32 DL:32 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 15) Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 16) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 17) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 18) Void.
- 19) Void.
- 20) Void.
- 21) Void.
- 22) Void..
- 23) Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 23a) Interactive or background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23b) Interactive or background / UL:16 DL:16 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23c) Interactive or background / UL:32 DL:32 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23d) Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI)
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 24) Void..

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

- 38h) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB
+ Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38i) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38j) Conversational / speech / (12.2 7.95 5.9 4.75) kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH.
- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:128 DL:2 048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 46) Void
- 47) Void
- 48) Void
- 49) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 49a) Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 50) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 51a) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or Background / UL:8 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

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

Combinations on PDSCH, SCCPCH, PUSCH and PRACH

- 1) Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL: 3.4/16.8 DL:3.4/ 33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL:16.8 DL: 16 kbps SRBs for SHCCH.
- 2) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.
- 3) Interactive or background / UL:64 DL:2 048 kbps / PS RAB
+ UL:3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.
- 4) Interactive or background / UL:384 DL:2 048 kbps / PS RAB
+ UL:3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH
+ UL: 16.8 DL: 16 kbps SRBs for SHCCH.

Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

- 1) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
+ Interactive or background / UL:64 DL:256 kbps / PS RAB
+ UL:16.8 kbps SRBs for CCCH and SHCCH
+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.
- 2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
+ Interactive or background / UL:64 DL:384 kbps / PS RAB

- + UL:16.8 kbps SRBs for CCCH and SHCCH
 - + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.
- 3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
 - + UL:3.4 DL:3.4 kbps SRBs for DCCH
 - + Interactive or background / UL:64 DL:2 048 kbps / PS RAB
 - + UL:16.8 kbps SRBs for CCCH and SHCCH
 - + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH.

Combinations on SCCPCH

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

Combinations on PRACH

- 1) Interactive or background / UL:12.8 kbps / PS RAB
 - + SRB for CCCH
 - + SRBs for DCCH.

Combinations on DPCH and HS-PDSCH

- 1) Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 2) Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 3) Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 5) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

- 6) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 7) Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 8) Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 9) Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 10) Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)
- 11) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

6.11.6.3 Example of linkage between RABs and services

RABs, which are included in the present document, can provide the services as shown in table 6.10.1.1: Traffic classes. Furthermore, the required BER for each RAB, which is assumed in the present document, is shown in table 6.11.6.3.1.

Table 6.11.6.3.1: Example of linkage between RABs and services

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

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

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

NOTE 3: UDI *n*B can be provided via *n* RABs of conversational 64 kbps.

6.11.6.4 Typical radio parameter sets

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

6.11.6.4.1 Combinations on DPCH

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

6.11.6.4.1.1.1 Uplink

6.11.6.4.1.1.1.1 Transport channel parameters

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

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

6.11.6.4.1.1.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

6.11.6.4.1.1.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	234
	TFCI code word	8 bits
	TPC	2 bits
	Puncturing Limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

6.11.6.4.1.1.2 Downlink

6.11.6.4.1.1.2.1 Transport channel parameters

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

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			

TFS	TF0, bits	0 x148 (alt. 1 x0) (note)
	TF1, bits	1x148
TTI, ms		80
Coding type		CC 1/3
CRC, bit		16
Max number of bits/TTI before rate matching		516
Max number of bits/radio frame before rate matching		65
RM attribute		155 to 185

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

6.11.6.4.1.1.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)

NOTE: The first TFC is required for the alt. case, optional otherwise.

6.11.6.4.1.1.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	236 bits
	TFCI code word	8 bits
	Puncturing limit	1

NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.

6.11.6.4.1.1a Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (multiframe)

6.11.6.4.1.1a.1 Uplink

6.11.6.4.1.1a.1.1 Transport channel parameters

6.11.6.4.1.1a.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	1 700	1 600	1 600	1 600	
	AMD/UMD PDU header, bit	8	16	16	16	
MAC	MAC header, bit	4	4	4	4	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DCH				
	TB sizes, bit	148				
	TFS	TF0, bits	0x148			
		TF1, bits	1x148			
	TTI, ms	20				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	516				
	Max number of bits/radio frame before rate matching	258				

6.11.6.4.1.1a.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)

6.11.6.4.1.1a.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	266
	TFCI code word	8 bits
	TPC	2 bits
	Puncturing Limit	1
	Repetition period	8
	Repetition length	2
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

6.11.6.4.1.1a.2 Downlink

6.11.6.4.1.1a.2.1 Transport channel parameters

6.11.6.4.1.1a.2.1.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1 700	1 600	1 600	1 600
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148			
	TFS	TF0, bits	0 x148		
		TF1, bits	1x148		
	TTI, ms	20			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	258			

6.11.6.4.1.1a.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is optional.	

6.11.6.4.1.1a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	268 bits
	TFCI code word	8 bits
	Puncturing limit	1
	Repetition period	8
		Repetition length
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

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

6.11.6.4.1.2.1 Uplink

6.11.6.4.1.2.1.1 Transport channel parameters

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

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148 (alt. 0,148) (note)			
	TFS	TF0, bits	0x148 (alt. 1x0) (note)		
		TF1, bits	1x148		
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Max number of bits/radio frame before rate matching	129			
	RM attribute	155 to 165			

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

6.11.6.4.1.2.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)

NOTE: The first TFC is required for the alt. case, optional otherwise.

6.11.6.4.1.2.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	234 bits
	TFCI code word	8 bits
	TPC	2 bit
	Puncturing Limit	1

NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.

6.11.6.4.1.2.2 Downlink

6.11.6.4.1.2.2.1 Transport channel parameters

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

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

Coding type	CC 1/3
CRC, bit	16
Max number of bits/TTI before rate matching	516
Max number of bits/radio frame before rate matching	129
RM attribute	155 to 165
NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE.	

6.11.6.4.1.2.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

6.11.6.4.1.2.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	236
	TFCI code word	8 bits
	Puncturing limit	1
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

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

6.11.6.4.1.3.1 Uplink

6.11.6.4.1.3.1.1 Transport channel parameters

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

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

6.11.6.4.1.3.1.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

6.11.6.4.1.3.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	468 bits
	TFCI code word	8 bits
	TPC	2 bits
	Puncturing Limit	0.88
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

6.11.6.4.1.3.2 Downlink

6.11.6.4.1.3.2.1 Transport channel parameters

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

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

6.11.6.4.1.3.2.1.2 TFCS

TFCS size	2
TFCS	SRBs for DCCH = (TF0), (TF1)
NOTE: The first TFC is required for the alt. case, optional otherwise.	

6.11.6.4.1.3.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	480 bits
	TFCI code word	8 bits
	Puncturing limit	0.92
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 4 bits.		

- 6.11.6.4.1.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.1.4.1 Uplink
- 6.11.6.4.1.4.1.1 Transport channel parameters
- 6.11.6.4.1.4.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 81 (alt. 0, 39, 81)	103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 81 (alt. 0, 39, 81)	103	60	
	TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x103	1x60
		TF2, bits	1x81	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	303	333	136	
	Max number of bits/radio frame before rate matching	152	167	68	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.2.1.1.1.

- 6.11.6.4.1.4.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

- 6.11.6.4.1.4.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCl code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.72

- 6.11.6.4.1.4.2 Downlink
- 6.11.6.4.1.4.2.1 Transport channel parameters
- 6.11.6.4.1.4.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3
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RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		39,81 (alt. 0, 39, 81)	103	60
	Max data rate, bps		12 200		
	TrD PDU header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	DCH
	TB sizes, bit		39,81 (alt. 0,39,81)	103	60
	TFS	TF0, bits	0x81 (alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x103	1x60
		TF2, bits	1x81	N/A	N/A
	TTI, ms		20	20	20
	Coding type		CC 1/3	CC 1/3	CC 1/2
	CRC, bit		12	N/A	N/A
	Max number of bits/TTI after channel coding		303	333	136
	Max number of bits/radio frame before rate matching		152	167	68
	RM attribute		180 to 220	170 to 210	215 to 256
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).					

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.4.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.4.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

6.11.6.4.1.4a Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL:(12.2, 7.95, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.4a.1 Uplink

6.11.6.4.1.4a.1.1 Transport channel parameters

6.11.6.4.1.4a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type		DTCH		
	RLC mode		TM	TM	TM
	Payload sizes, bit		39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60
	Max data rate, bps		12 200		
	TrD PDU header, bit		0		
MAC	MAC header, bit		0		
	MAC multiplexing		N/A		
Layer 1	TrCH type		DCH	DCH	

TB sizes, bit		39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60
TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
	TF1, bits	1x39	1x53	1x60
	TF2, bits	1x42	1x63	N/A
	TF3, bits	1x55	1x84	N/A
	TF4, bits	1x75	1x103	N/A
	TF5, bits	1x81	N/A	N/A
TTI, ms		20	20	20
Coding type		CC 1/3	CC 1/3	CC 1/2
CRC, bit		12	N/A	N/A
Max number of bits/TTI after channel coding		303	333	136
Max number of bits/radio frame before rate matching		152	167	68
RM attribute		180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

6.11.6.4.1.4a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.4a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.4a.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCl code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.72

6.11.6.4.1.4a.2 Downlink

6.11.6.4.1.4a.2.1 Transport channel parameters

6.11.6.4.1.4a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	Max data rate, bps	12 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 75, 81 (alt. 0, 39, 42, 55, 75, 81)	53, 63, 84, 103	60	
	TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60
		TF1, bits	1x39	1x53	1x60
		TF2, bits	1x42	1x63	N/A

	TF3, bits	1x55	1x84	N/A
	TF4, bits	1x75	1x103	N/A
	TF5, bits	1x81	N/A	N/A
	TTI, ms	20	20	20
	Coding type	CC 1/3	CC 1/3	CC 1/2
	CRC, bit	12	N/A	N/A
	Max number of bits/TTI after channel coding	303	333	136
	Max number of bits/radio frame before rate matching	152	167	68
	RM attribute	180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

6.11.6.4.1.4a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.4a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

6.11.6.4.1.4a.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x2 codes x1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

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

6.11.6.4.1.5.1 Uplink

6.11.6.4.1.5.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 65 (alt. 0, 39, 65)	99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
CRC, bit	12	N/A	N/A		

	Max number of bits/TTI after channel coding	255	321	96
	Max number of bits/radio frame before rate matching	128	161	48
	RM attribute	180 to 220	170 to 210	215 to 256
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.5.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.5.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.40

6.11.6.4.1.5.2 Downlink

6.11.6.4.1.5.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39,65 (alt. 0, 39, 65)	99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 65 (alt.0,39,65)	99	40	
	TFS	TF0, bits	0x65 (alt,1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x99	1x40
		TF2, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).					

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.5.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)= (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.5.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.40

6.11.6.4.1.5a Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.5a.1 Uplink

6.11.6.4.1.5a.1.1 Transport channel parameters

6.11.6.4.1.5a.1.1.1 Transport channel parameters for Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	53, 63, 76, 99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x76	N/A
		TF4, bits	1x58	1x99	N/A
		TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
RM attribute	180 to 220	170 to 210	215 to 256		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in TS 25.222).				

6.11.6.4.1.5a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.5a.1.1.3 TFCS

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

	(TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.5a.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCl code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.40

6.11.6.4.1.5a.2 Downlink

6.11.6.4.1.5a.2.1 Transport channel parameters

6.11.6.4.1.5a.2.1.1 Transport channel parameters for Conversational / speech / DL: DL: (10.2, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	0, 53, 63, 76, 99	40	
	Max data rate, bps	10 200			
	TrD PDU header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 65 (alt. 0, 39, 42, 55, 58, 65)	0, 53, 63, 76, 99	40	
	TFS	TF0, bits	0x65 (alt. 1x0) (note)	0x99	0x40
		TF1, bits	1x39	1x53	1x40
		TF2, bits	1x42	1x63	N/A
		TF3, bits	1x55	1x76	N/A
		TF4, bits	1x58	1x99	N/A
		TF5, bits	1x65	N/A	N/A
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	N/A	N/A	
	Max number of bits/TTI after channel coding	255	321	96	
	Max number of bits/radio frame before rate matching	128	161	48	
	RM attribute	180 to 220	170 to 210	215 to 256	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

6.11.6.4.1.5a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.5a.2.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)= (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.5a.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCl code word	16 bits
	Puncturing limit	0.40

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

6.11.6.4.1.6.1 Uplink

6.11.6.4.1.6.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	Max data rate, bps	7 950		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	TFS	TF0, bits	0x75 (alt. 1x0) (note)	0x84
		TF1, bits	1x39	1x84
		TF2, bits	1x75	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	285	276	
	Max number of bits/radio frame before rate matching	143	138	
	RM attribute	180 to 220	170 to 210	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clauses 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.6.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.6.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44

6.11.6.4.1.6.2 Downlink

6.11.6.4.1.6.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	Max data rate, bps	7 950		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 75 (alt. 0, 39, 75)	84	
	TFS	TF0, bits	0x75 (alt. 1x0) (note)	0x84
		TF1, bits	1x39	1x84
		TF2, bits	1x75	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	285	276	
	Max number of bits/radio frame before rate matching	143	138	
RM attribute	180 to 220	170 to 210		
NOTE:	CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.6.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.6.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

6.11.6.4.1.7.1 Uplink

6.11.6.4.1.7.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	39, 61 (alt. 0, 39, 61)	87
	Max data rate, bps	7 400	
	TrD PDU header, bit	0	

MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x87
		TF2, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
RM attribute	180 to 220	170 to 210		
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.7.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.7.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48

6.11.6.4.1.7.2 Downlink

6.11.6.4.1.7.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 61 (alt. 0, 39, 61)	87	
	TFS	TF0, bits	0x61(alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x87
		TF2, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
RM attribute	180 to 220	170 to 210		

NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB #1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.7.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; optional otherwise.

6.11.6.4.1.7.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.11.6.4.1.7a Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.7a.1 Uplink

6.11.6.4.1.7a.1.1 Transport channel parameters

6.11.6.4.1.7a.1.1.1 Transport channel parameters for Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms	20		
	Coding type	CC 1/3		
	CRC, bit	12		
	Max number of bits/TTI after channel coding	243		
	Max number of bits/radio frame before rate matching	122		
	RM attribute	180 to 220	170 to 210	

NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).

6.11.6.4.1.7a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.7a.1.1.3 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF3, TF2, TF0), (TF4, TF3, TF0), (TF5, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.7a.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48

6.11.6.4.1.7a.2 Downlink

6.11.6.4.1.7a.2.1 Transport channel parameters

6.11.6.4.1.7a.2.1.1 Transport channel parameters for Conversational / speech / DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	Max data rate, bps	7 400		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42, 55, 58, 61 (alt. 0, 39, 42, 55, 58, 61)	53, 63, 76, 87	
	TFS	TF0, bits	0x61 (alt. 1x0) (note)	0x87
		TF1, bits	1x39	1x53
		TF2, bits	1x42	1x63
		TF3, bits	1x55	1x76
		TF4, bits	1x58	1x87
		TF5, bits	1x61	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	243	285	
	Max number of bits/radio frame before rate matching	122	143	
	RM attribute	180 to 220	170 to 210	
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

6.11.6.4.1.7a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.7a.2.1.3 TFCS

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

	(TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1), (TF3, TF2, TF1), (TF4, TF3, TF1), (TF5, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.7a.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

6.11.6.4.1.8.1 Uplink

6.11.6.4.1.8.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 58 (alt. 0, 39, 58)	76	
	Max data rate, bps	6 700		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 58 (alt. 0, 39, 58)	76	
	TFS	TF0, bits	0x58 (alt. 1x0) (note)	0x76
		TF1, bits	1x39	1x76
		TF2, bits	1x58	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	234	252	
	Max number of bits/radio frame before rate matching	117	126	
RM attribute	180 to 220	170 to 210		
NOTE:	In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.8.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.8.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52

6.11.6.4.1.8.2 Downlink

6.11.6.4.1.8.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 58 (alt. 0, 39, 58)	76	
	Max data rate, bps	6 700		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 58 (alt. 0,39,58)	76	
	TFS	TF0, bits	0x58 (alt.1x0) (note)	0x76
		TF1, bits	1x39	1x76
		TF2, bits	1x58	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	234	252	
	Max number of bits/radio frame before rate matching	117	126	
	RM attribute	180 to 220	170 to 210	
NOTE : CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBIs are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.8.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.8.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

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

6.11.6.4.1.9.1 Uplink

6.11.6.4.1.9.1.1 Transport channel parameters

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

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

	Payload sizes, bit	39, 55 (alt. 0, 39, 55)	63
	Max data rate, bps	5 900	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	39, 55 (alt. 0, 39, 55)	63
	TFS	TF0, bits	0x55 (alt. 1x0) (note)
		TF1, bits	1x39
		TF2, bits	1x55
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	N/A
	Max number of bits/TTI after channel coding	225	213
	Max number of bits/radio frame before rate matching	113	107
	RM attribute	180 to 220	170 to 210
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.9.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.9.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.56

6.11.6.4.1.9.2 Downlink

6.11.6.4.1.9.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	39, 55 (alt. 0, 39, 55)	63
	Max data rate, bps	5 900	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	39, 55 (alt. 0, 39, 55)	63
	TFS	TF0, bits	0x55 (alt. 1x0) (note)
		TF1, bits	1x39
		TF2, bits	1x55
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	N/A

	Max number of bits/TTI after channel coding	225	213
	Max number of bits/radio frame before rate matching	113	107
	RM attribute	180 to 220	170 to 210
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.9.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.9.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

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

6.11.6.4.1.10.1 Uplink

6.11.6.4.1.10.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	Max data rate, bps	5 150		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	TFS	TF0, bits	0x49 (alt. 1x0) (note)	0x54
		TF1, bits	1x39	1x54
		TF2, bits	1x49	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	207	186	
	Max number of bits/radio frame before rate matching	104	93	
RM attribute	180 to 220	170 to 210		
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.1.1.1.1.

6.11.6.4.1.10.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.10.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72

6.11.6.4.1.10.2 Downlink

6.11.6.4.1.10.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	Max data rate, bps	5 150		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 49 (alt. 0, 39, 49)	54	
	TFS	TF0, bits	0x49 (alt. 1x0) (note)	0x54
		TF1, bits	1x39	1x54
		TF2, bits	1x49	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	207	186	
	Max number of bits/radio frame before rate matching	104	93	
RM attribute	180 to 220	170 to 210		
NOTE:	CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.1.2.1.1.

6.11.6.4.1.10.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.10.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits

	TFCI code word	16 bits
	Puncturing limit	0.72

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

6.11.6.4.1.11.1 Uplink

6.11.6.4.1.11.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	39, 42 (alt. 0, 39, 42)	53	
	Max data rate, bps	4 750		
	TrD PDU header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	39, 42 (alt. 0, 39, 42)	53	
	TFS	TF0, bits	0x42 (alt. 1x0) (note)	0x53
		TF1, bits	1x39	1x53
		TF2, bits	1x42	N/A
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	N/A	
	Max number of bits/TTI after channel coding	186	183	
	Max number of bits/radio frame before rate matching	93	92	
	RM attribute	180 to 220	170 to 210	
NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.1.1.1.

6.11.6.4.1.11.1.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.11.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76

6.11.6.4.1.11.2 Downlink

6.11.6.4.1.11.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
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RLC	Logical channel type		DTCH	
	RLC mode		TM	TM
	Payload sizes, bit		39, 42 (alt. 0, 39, 42)	53
	Max data rate, bps		4 750	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	DCH
	TB sizes, bit		39, 42 (alt. 0, 39, 42)	53
	TFS	TF0, bits	0x42 (alt.1x0)(note)	
		TF1, bits	1x39	1x53
		TF2, bits	1x42	N/A
	TTI, ms		20	20
	Coding type		CC 1/3	CC 1/3
	CRC, bit		12	N/A
	Max number of bits/TTI after channel coding		186	183
	Max number of bits/radio frame before rate matching		93	92
	RM attribute		180 to 220	170 to 210
NOTE: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).				

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

See clause 6.11.6.4.1.1.2.1.1.

6.11.6.4.1.11.2.1.3 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.11.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

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

6.11.6.4.1.12.1 Uplink

6.11.6.4.1.12.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		576
	Max data rate, bps		28 800
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		576
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms		20

Coding type	TC
CRC, bit	16
Max number of bits/TTI after channel coding	3 564
Max number of bits/radio frame before rate matching	891
RM attribute	160 to 200

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.12.1.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.12.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76
NOTE:	In case the first TFC in a TFCS is not configured, the TFCI code word will be 8 bits.	

6.11.6.4.1.12.2 Downlink

6.11.6.4.1.12.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
	Max number of bits/radio frame before rate matching	891	
	RM attribute	160 to 200	

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.12.2.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.12.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.40
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

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

6.11.6.4.1.13.1 Uplink

6.11.6.4.1.13.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		TM
	Payload sizes, bit		640
	Max data rate, bps		64 000
	TrD PDU header, bit		0
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		640
	TFS	TF0, bits	0x640
		TF1, bits	2x640(alt. 4x640)
	TTI, ms		20(alt. 40)
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		3 948(alt. 7884)
	Max number of bits/radio frame before rate matching		1 974(alt. 1971)
	RM attribute		150 to 195

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.13.1.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.13.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot + SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1148 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

6.11.6.4.1.13.2 Downlink

6.11.6.4.1.13.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	64 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	2x640(alt. 4x640)
	TTL, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTL after channel coding	3 948(alt. 7884)	
	Max number of bits/radio frame before rate matching	1 974(alt. 1971)	
RM attribute	150 to 195		

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.13.2.1.3 TFCS

TFCS size	4
TFCS	(64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.13.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 204 bits
	TFCI code word	16 bits
	Puncturing limit	0.52
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

6.11.6.4.1.14.1 Uplink

6.11.6.4.1.14.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	TM
	Payload sizes, bit	640
	Max data rate, bps	32 000
	TrD PDU header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	640
	TFS	TF0, bits

	TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 980(alt. 3948)
	Max number of bits/radio frame before rate matching	990(alt. 987)
	RM attribute	165 to 210

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.14.1.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.14.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.68
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

6.11.6.4.1.14.2 Downlink

6.11.6.4.1.14.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32 000	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0x640
		TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 980(alt. 3948)	
	Max number of bits/radio frame before rate matching	990(alt. 987)	
	RM attribute	165 to 210	

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.14.2.1.3 TFCS

TFCS size	4
TFCS	(32 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.14.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	716 bits
	TFCI code word	16 bits
	Puncturing limit	0.52
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

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

6.11.6.4.1.15.1 Uplink

6.11.6.4.1.15.1.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.15.1.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

6.11.6.4.1.15.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.76
NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.		

6.11.6.4.1.15.2 Downlink

6.11.6.4.1.15.2.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.15.2.1.3 TFCS

TFCS size	4
TFCS	(14.4 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.15.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.80
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

6.11.6.4.1.16.1 Uplink

6.11.6.4.1.16.1.1 Transport channel parameters

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

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

	TF1, bits	1x576
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	3 564
	Max number of bits/radio frame before rate matching	891
	RM attribute	135 to 175

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.16.1.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.16.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

6.11.6.4.1.16.2 Downlink

6.11.6.4.1.16.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28 800	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	3 564	
	Max number of bits/radio frame before rate matching	891	
	RM attribute	135 to 175	

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.16.2.1.3 TFCS

TFCS size	4
TFCS	(28.8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.16.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.44

NOTE: In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.

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

6.11.6.4.1.17.1 Uplink

6.11.6.4.1.17.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	57 600	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0x576
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	7 116	
Max number of bits/radio frame before rate matching	1 779		
RM attribute	125 to 165		

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.17.1.1.3 TFCS

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

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.17.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 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	0.44

6.11.6.4.1.17.2 Downlink

6.11.6.4.1.17.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB	
RLC	Logical channel type		DTCH	
	RLC mode		TM	
	Payload sizes, bit		576	
	Max data rate, bps		57 600	
	TrD PDU header, bit		0	
MAC	MAC header, bit		0	
	MAC multiplexing		N/A	
Layer 1	TrCH type		DCH	
	TB sizes, bit		576	
	TFS	TF0, bits		0x576
		TF1, bits		1x576
		TF2, bits		2x576
		TF3, bits		3x576
		TF4, bits		4x576
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		7 116	
	Max number of bits/radio frame before rate matching		1 779	
RM attribute		125 to 165		

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.17.2.1.3 TFCS

TFCS size	10
TFCS	(57.6 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.17.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	960 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.11.6.4.1.18 Void

6.11.6.4.1.19 Void

6.11.6.4.1.20 Void

6.11.6.4.1.21 Void

6.11.6.4.1.22 Void

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

6.11.6.4.1.23.1 Uplink

6.11.6.4.1.23.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt.144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	1 062 (alt. 1 206)	
RM attribute	135 to 175		

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.23.1.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.23.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

6.11.6.4.1.23.2 Downlink

6.11.6.4.1.23.2.1 Transport channel parameters

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

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

	Max number of bits/TTI after channel coding	1 068
	Max number of bits/radio frame before rate matching	267
	RM attribute	135 to 175

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.23.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.23.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

6.11.6.4.1.23a Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.23a.1 Uplink

6.11.6.4.1.23a.1.1 Transport channel parameters

6.11.6.4.1.23a.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	8 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	N/A (alt. 5x144)
	TTI, ms	40 (alt. 80)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 068 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	267 (alt. 302)	
RM attribute	135 to 175		

6.11.6.4.1.23a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.23a.1.1.3 TFCS

TFCS size	4 (alt. 6)
TFCS	(8 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23a.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.56 (alt. 0.48)

6.11.6.4.1.23a.2 Downlink

See clause 6.11.6.4.1.23.2.

6.11.6.4.1.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.23b.1 Uplink

6.11.6.4.1.23b.1.1 Transport channel parameters

6.11.6.4.1.23b.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	16 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
	Max number of bits/radio frame before rate matching	531 (alt. 603)	
	RM attribute	135 to 175	

6.11.6.4.1.23b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.23b.1.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23b.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68 (alt. 0.60)

6.11.6.4.1.23b.2 Downlink

6.11.6.4.1.23b.2.1 Transport channel parameters

6.11.6.4.1.23b.2.1.1 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

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

6.11.6.4.1.23b.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.23b.2.1.3 TFCS

TFCS size	6
TFCS	(16 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23b.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.11.6.4.1.23c Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.23c.1 Uplink

6.11.6.4.1.23c.1.1 Transport channel parameters

6.11.6.4.1.23c.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320 (alt. 128)
	Max data rate, bps	32 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336 (alt. 144)

	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
		TF3, bits	3x336 (alt. 7x144)
		TF4, bits	4x336 (alt. 10x144)
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4 236 (alt. 4 812)	
	Max number of bits/radio frame before rate matching	1 059 (alt. 1 203)	
RM attribute	135 to 175		

6.11.6.4.1.23c.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.23c.1.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23c.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

6.11.6.4.1.23c.2 Downlink

6.11.6.4.1.23c.2.1 Transport channel parameters

6.11.6.4.1.23c.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

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

6.11.6.4.1.23c.2.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.23c.2.1.3 TFCS

TFCS size	10
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23c.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	716
	TFCI code word	16 bits
	Puncturing limit	0.60

6.11.6.4.1.23d Interactive or background / UL:32 DL:32 kbps / PS RAB (20 ms TTI)+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.23d.1 Uplink

6.11.6.4.1.23d.1.1 Transport channel parameters

6.11.6.4.1.23d.1.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	32 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 5x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2 124 (alt. 2 412)	
Max number of bits/radio frame before rate matching	1 062 (alt. 1 206)		
RM attribute	135 to 175		

6.11.6.4.1.23d.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.23d.1.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23d.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits

	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

6.11.6.4.1.23d.2 Downlink

6.11.6.4.1.23d.2.1 Transport channel parameters

6.11.6.4.1.23d.2.1.1 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

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

6.11.6.4.1.23d.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.23d.2.1.3 TFCS

TFCS size	6
TFCS	(32 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.23d.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 3 codes x 1 time slot
	Max. Number of data bits/radio frame	716 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

6.11.6.4.1.24 Void

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

6.11.6.4.1.25.1 Uplink

See clause 6.11.6.4.1.23.1.

6.11.6.4.1.25.2 Downlink

6.11.6.4.1.25.2.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.25.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.25.2.2 Physical channel parameters

DPCH Downlink	Physical Configuration 1	Physical Configuration 2
Midamble	1024 chips	1024 chips
Codes and time slots	SF32 x 3 codes x 1 time slot + SF32 x 2 codes x 1 time slot	SF32 x 9 codes x 1 time slot
Max. Number of data bits/radio frame	1 204 bits	2 180 bits
TFCI code word	16 bits	16 bits
Puncturing limit	0.52	0.96

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

6.11.6.4.1.26.1 Uplink

6.11.6.4.1.26.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320 (alt. 128)
	Max data rate, bps	64 000
	AMD PDU header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336 (alt. 144)

TFS	TF0, bits	0x336 (alt. 0x144)
	TF1, bits	1x336 (alt. 1x144)
	TF2, bits	2x336 (alt. 3x144)
	TF3, bits	3x336 (alt. 7x144)
	TF4, bits	4x336 (alt. 10x144)
TTI, ms		20
Coding type		TC
CRC, bit		16
Max number of bits/TTI after channel coding		4 236 (alt. 4 812)
Max number of bits/radio frame before rate matching		2 118 (alt. 2 406)
RM attribute		130 to 170

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.26.1.1.3 TFCS

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

6.11.6.4.1.26.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1	Physical Configuration 2
Midamble	1024 chips	1024 chips
Codes and time slots	SF32 x 1 code x 1 time slot + SF8 x 1 code x 1 time slot	SF4 x 1 code x 1 time slot + SF8 x 1 code x 1 time slot
Max. Number of data bits/radio frame	1148 bits	2 784 bits
TFCI code word	16 bits	16 bits
TPC	2 bits	2 bits
Puncturing Limit	0.48 (alt. 0.44)	1

6.11.6.4.1.26.2 Downlink

See clause 6.11.6.4.1.25.2.

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

6.11.6.4.1.27.1 Uplink

See clause 6.11.6.4.1.26.1.

6.11.6.4.1.27.2 Downlink

6.11.6.4.1.27.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		128 000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
TF2, bits		2x336	

	TF3, bits	4x336
	TF4, bits	8x336
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	8 460
	Max number of bits/radio frame before rate matching	4 230
	RM attribute	120 to 160

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.27.2.1.3 TFCS

TFCS size	10
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.27.2.2 Physical channel parameters

DPCH Downlink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF32 x 8 codes x 1 time slot	SF32 x 4 codes x 2 time slots + SF32 x 3 codes x 2 time slots
Max. Number of data bits/radio frame	2 192 bits	3848 bits
TFCI code word	16 bits	16 bits
Puncturing limit	0.48	0.84

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

6.11.6.4.1.28.1 Uplink

6.11.6.4.1.28.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	128 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 7x144)
		TF3, bits	4x336 (alt. 14x144)
		TF4, bits	8x336 (alt. 20x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460 (alt. 9 612)	
Max number of bits/radio frame before rate matching	4 230 (alt. 4 806)		
RM attribute	120 to 160		

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.28.1.1.3 TFCS

TFCS size	9 (alt.10)
TFCS	(128 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.28.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF4 x 1 code x 1 timeslot	SF4 x 1 code x 2 timeslots + SF8 x 1 code x 1 time slot
Max. Number of data bits/radio frame	2 064 bits	5 376 bits
TFCI code word	16 bits	16 bits
TPC	2 bits	2 bits
Puncturing Limit	0.44 (alt. 0.40)	1

6.11.6.4.1.28.2 Downlink

See clause 6.11.6.4.1.27.2.

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

6.11.6.4.1.29.1 Uplink

See clause 6.11.6.4.1.26.1.

6.11.6.4.1.29.2 Downlink

6.11.6.4.1.29.2.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.29.2.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.29.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 9 codes x 1 time slot
	Max. Number of data bits/radio frame	2468 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

6.11.6.4.1.30.1 Uplink

6.11.6.4.1.30.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	144 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt. 0x144)
		TF1, bits	1x336 (alt. 1x144)
		TF2, bits	2x336 (alt. 10x144)
		TF3, bits	4x336 (alt. 20x144)
		TF4, bits	8x336 (alt. 30x144)
		TF5, bits	9x336 (alt. 45x144)
	TTI, ms	20 (alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	9 516 (alt. 21 624)	
	Max number of bits/radio frame before rate matching	4 758 (alt. 5 406)	
	RM attribute	140 to 180	

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.30.1.1.3 TFCS

TFCS size	12
TFCS	(144 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.30.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF32 x 1 code x 1 time slot + SF4 x 1 codex 1 time slot
	Max. Number of data bits/radio frame	2340 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44 (alt. 0.40)

6.11.6.4.1.30.2 Downlink

See clause 6.11.6.4.1.29.2.

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

6.11.6.4.1.31.1 Uplink

See clause 6.11.6.4.1.26.1.

6.11.6.4.1.31.2 Downlink

6.11.6.4.1.31.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
		TF4, bits	8x336
		TF5, bits	N/A (alt. 12x336)
		TF6, bits	N/A (alt. 16x336)
	TTI, ms	10 (alt. 20)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 460 (alt. 16 920)	
Max number of bits/radio frame before rate matching	8 460 (alt. 8 460)		
RM attribute	135 to 175		

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.31.2.1.3 TFCS

TFCS size	10 (alt.14)
TFCS	(256 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.31.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

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

6.11.6.4.1.32.1 Uplink

See clause 6.11.6.4.1.26.1.

6.11.6.4.1.32.2 Downlink

6.11.6.4.1.32.2.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.32.2.1.3 TFCS

TFCS size	12 (alt.18)
TFCS	(384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.32.2.2 Physical channel parameters

DPCH Downlink		Physical Configuration 1	Physical Configuration 2
	Midamble	512 chips	512 chips
	Codes and time slots	SF32 x 8 codes x 3 time slots	SF32 x 6 codes x 4 time slots + SF32 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	6 608 bits	7 712 bits
	TFCl code word	16 bits	16 bits
	Puncturing Limit	0.48	0.60

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

6.11.6.4.1.33.1 Uplink

See clause 6.11.6.4.1.28.1.

6.11.6.4.1.33.2 Downlink

See clause 6.11.6.4.1.32.2.

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

6.11.6.4.1.34.1 Uplink

6.11.6.4.1.34.1.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.34.1.1.3 TFCS

TFCS size	12 (alt.18)
TFCS	(384 kbps RAB, DCCH)=

	(TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.34.1.2 Physical channel parameters

DPCH Uplink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF4 x 1 code x 3 time slots	SF4 x 1 code x 5 timeslots + SF8 x 1 code x 2 timeslots (alt. {SF4 x 1 code + SF8 x 1 code} x 4 timeslots)
Max. Number of data bits/radio frame	6 480 bits	13 104 bits
TFCI code word	16 bits	16 bits
TPC	2 bits	2 bits
Puncturing Limit	0.48	1

6.11.6.4.1.34.2 Downlink

See clause 6.11.6.4.1.32.2.

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

6.11.6.4.1.35.1 Uplink

6.11.6.4.1.35.1.1 Transport channel parameters

See clause 6.11.6.4.1.26.1.1.

6.11.6.4.1.35.1.1.2 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		2 064 bits
TFCI code word		16 bits
TPC		2 bits
Puncturing Limit		0.88 (alt. 0.80)

6.11.6.4.1.35.2 Downlink

6.11.6.4.1.35.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	2 048 000	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
TF3, bits		4x656	

Higher layer	RAB/Signalling RB	RAB
	TF4, bits	8x656
	TF5, bits	12x656
	TF6, bits	16x656
	TF7, bits	20x656
	TF8, bits	24x656
	TF9, bits	28x656
	TF10, bits	31x656 (alt. 32x656)
	TF11, bits	N/A (alt. 36x656)
	TF12, bits	N/A (alt. 40x656)
	TF13, bits	N/A (alt. 44x656)
	TF14, bits	N/A (alt. 48x656)
	TF15, bits	N/A (alt. 52x656)
	TF16, bits	N/A (alt. 56x656)
	TF17, bits	N/A (alt. 60x656)
	TF18, bits	N/A (alt. 64x656)
	TTL, ms	10 (alt. 20)
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTL after channel coding	62 565 (alt. 129 141)
	Max number of bits/radio frame before rate matching	62 565 (alt. 64 571)
	RM attribute	130 to 170

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.35.2.1.3 TFCS

TFCS size	21 (alt.38)
TFCS	(2 048 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1) (alt. TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0), (TF9, TF0), (TF10, TF0), (TF11, TF0), (TF12, TF0), (TF13, TF0), (TF14, TF0), (TF15, TF0), (TF16, TF0), (TF17, TF0), (TF18, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1), (TF9, TF1), (TF10, TF1), (TF11, TF1), (TF12, TF1), (TF13, TF1), (TF14, TF1), (TF15, TF1), (TF16, TF1), (TF17, TF1), (TF18, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.35.2.2 Physical channel parameters

DPCH Downlink	Physical Configuration 1	Physical Configuration 2
Midamble	512 chips	512 chips
Codes and time slots	SF1 x 1 code x 5 time slots	SF8 x 13 codes x 4 time slots + SF8 x 12 codes x 7 time slot
Max. Number of data bits/radio frame	44 144 bits (alt. 44 128)	37 520 bits (alt. 37 504)
TFCI code word	16 bits (alt. 32 bits)	16 bits (alt. 32 bits)
Puncturing limit	0.68 (alt.0.68)	0.56

6.11.6.4.1.36 Void

6.11.6.4.1.37 Void

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

6.11.6.4.1.38.1 Uplink

6.11.6.4.1.38.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.23.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38.1.1.4 TFCS

TFCS size	18
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.38.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)

6.11.6.4.1.38.2 Downlink

6.11.6.4.1.38.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.23.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.

6.11.6.4.1.38.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.38.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits

	Puncturing limit	0.52
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6.11.6.4.1.38a Conversational / speech / 12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38a.1 Uplink

6.11.6.4.1.38a.1.1 Transport channel parameters

6.11.6.4.1.38a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.1.38a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320 (alt. 128)	
	Max data rate, bps	0	
	AMD PDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336 (alt. 144)	
	TFS	TF0, bits	0x336 (alt 0x144)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	0	
	Max number of bits/radio frame before rate matching	0	
	RM attribute	130 to 170	

6.11.6.4.1.38a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38a.1.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38a.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.11.6.4.1.38a.2 Downlink

6.11.6.4.1.38a.2.1 Transport channel parameters

6.11.6.4.1.38a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.1.38a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

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

6.11.6.4.1.38a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1

6.11.6.4.1.38a.2.1.4 TFCS

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38a.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.11.6.4.1.38b Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38b.1 Uplink

6.11.6.4.1.38b.1.1 Transport channel parameters

6.11.6.4.1.38b.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.1.38b.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.11.6.4.1.23a.1.1.1.

6.11.6.4.1.38b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38b.1.1.4 TFCS

TFCS size	12 (alt. 17)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1),

	(TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1) (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38b.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48 (alt. 0.56)

6.11.6.4.1.38b.2 Downlink

6.11.6.4.1.38b.2.1 Transport channel parameters

6.11.6.4.1.38b.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.1.38b.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.11.6.4.1.23.2.1.1.

6.11.6.4.1.38b.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38b.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38b.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

6.11.6.4.1.38c Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38c.1 Uplink

6.11.6.4.1.38c.1.1 Transport channel parameters

6.11.6.4.1.38c.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.1.38c.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.11.6.4.1.23d.1.1.1.

6.11.6.4.1.38c.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38c.1.1.4 TFCS

TFCS size	18 (alt. 17)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38c.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	904 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.52)

6.11.6.4.1.38c.2 Downlink

6.11.6.4.1.38c.2.1 Transport channel parameters

6.11.6.4.1.38c.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.1.38c.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.11.6.4.1.23d.2.1.1.

6.11.6.4.1.38c.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38c.2.1.4 TFCS

TFCS size	18
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38c.2.2 Physical channel parameters

DPCCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	960
	TFCI code word	16 bits
	Puncturing limit	0.56

6.11.6.4.1.38d Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38d.1 Uplink

6.11.6.4.1.38d.1.1 Transport channel parameters

6.11.6.4.1.38d.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.1.38d.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320 (alt. 128)	320 (alt. 128)	
	Max data rate, bps	64 000	64 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340 (alt. 148)		
	TFS	TF0, bits	0x340 (alt 0x148)	
		TF1, bits	1x340 (alt 1x148)	
		TF2, bits	2x340 (alt 3x148)	
		TF3, bits	3x340 (alt 7x148)	
		TF4, bits	4x340 (alt 10x148)	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
Max number of bits/TTI after channel coding	4 284 (alt. 4 932)			
Max number of bits/radio frame before rate matching	2 142 (alt. 2 466)			
RM attribute	130 to 170			

6.11.6.4.1.38d.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38d.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38d.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	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.64)

6.11.6.4.1.38d.2 Downlink

6.11.6.4.1.38d.2.1 Transport channel parameters

6.11.6.4.1.38d.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.1.38d.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB + DL:64 kbps / PS RAB

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

6.11.6.4.1.38d.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38d.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38d.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 7 codes x 1 time slot

	Max. Number of data bits/radio frame	1 916 bits
	TFI code word	16 bits
	Puncturing limit	0.68

6.11.6.4.1.38e Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) DL:(12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38e.1 Uplink

6.11.6.4.1.38e.1.1 Transport channel parameters

6.11.6.4.1.38e.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.38e.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.11.6.4.1.38a.1.1.2.

6.11.6.4.1.38e.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38e.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38e.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFI code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.11.6.4.1.38e.2 Downlink

6.11.6.4.1.38e.2.1 Transport channel parameters

6.11.6.4.1.38e.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38e.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.11.6.4.1.38a.2.1.2.

6.11.6.4.1.38e.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38e.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)=

	(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1),
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38e.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCl code word	16 bits
	Puncturing limit	0.68

6.11.6.4.1.38f Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38f.1 Uplink

6.11.6.4.1.38f.1.1 Transport channel parameters

6.11.6.4.1.38f.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.38f.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.11.6.4.1.23a.1.1.1.

6.11.6.4.1.38f.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38f.1.1.4 TFCS

TFCS size	24 (alt. 32)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1) (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38f.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits

	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48 (alt.0.56)

6.11.6.4.1.38f.2 Downlink

6.11.6.4.1.38f.2.1 Transport channel parameters

6.11.6.4.1.38f.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38f.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.11.6.4.1.23.2.1.1.

6.11.6.4.1.38f.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38f.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38f.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x2 codes x1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

6.11.6.4.1.38g Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38g.1 Uplink

6.11.6.4.1.38g.1.1 Transport channel parameters

6.11.6.4.1.38g.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.38g.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.11.6.4.1.23b.1.1.1.

6.11.6.4.1.38g.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38g.1.1.4 TFCS

TFCS size	32 (alt. 31)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1) (alt. (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1))
NOTE 1:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.
NOTE 2:	The alt. TFCS is used when the 16Kbps RAB alt. is used.

6.11.6.4.1.38g.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot + SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	664 bits (alt. 696 bits)
	TFCI code word	32 bits (alt. 16 bits)
	TPC	2 bits
	Puncturing Limit	0.56 (alt. 0.60)

6.11.6.4.1.38g.2 Downlink

6.11.6.4.1.38g.2.1 Transport channel parameters

6.11.6.4.1.38g.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38g.2.1.2 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.11.6.4.1.23b.2.1.1.

6.11.6.4.1.38g.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1

6.11.6.4.1.38g.2.1.4 TFCS

TFCS size	36
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38g.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x3 codes x1 time slot
	Max. Number of data bits/radio frame	700 bits
	TFCI code word	32 bits
	Puncturing limit	0.56

6.11.6.4.1.38h Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38h.1 Uplink

6.11.6.4.1.38h.1.1 Transport channel parameters

6.11.6.4.1.38h.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.38h.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.11.6.4.1.23d.1.1.1.

6.11.6.4.1.38h.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38h.1.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38h.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF8 x 1 code x 1 time slot + SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 084 bits
	TFCl code word	32 bits
	TPC	2 bits
	Puncturing Limit	0.68 (alt.0.60)

6.11.6.4.1.38h.2 Downlink

6.11.6.4.1.38h.2.1 Transport channel parameters

6.11.6.4.1.38h.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38h.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.11.6.4.1.23d.2.1.1.

6.11.6.4.1.38h.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38h.2.1.4 TFCS

TFCS size	32
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38h.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	944
	TFCl code word	32 bits
	Puncturing limit	0.60

6.11.6.4.1.38i Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38i.1 Uplink

6.11.6.4.1.38i.1.1 Transport channel parameters

6.11.6.4.1.38i.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.38i.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.11.6.4.1.26.1.1.1.

6.11.6.4.1.38i.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.38i.1.1.4 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38i.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	1 936 bits
	TFCI code word	32 bit
	TPC	2 bits
	Puncturing Limit	0.68 (alt.0.60)

6.11.6.4.1.38i.2 Downlink

6.11.6.4.1.38i.2.1 Transport channel parameters

6.11.6.4.1.38i.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38i.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.11.6.4.1.25.2.1.1.

6.11.6.4.1.38i.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38i.2.1.4 TFCS

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

	(TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38i.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 7 codes x 1 time slot
	Max. Number of data bits/radio frame	1 900 bits
	TFCI code word	32 bits
	Puncturing limit	0.68

6.11.6.4.1.38j Conversational / speech / (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.38j.1 Uplink

See clause 6.11.6.4.1.38i.1

6.11.6.4.1.38j.2 Downlink

6.11.6.4.1.38j.2.1 Transport channel parameters

6.11.6.4.1.38j.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.38j.2.1.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See clause 6.11.6.4.1.27.2.1.1.

6.11.6.4.1.38j.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.38j.2.1.4 TFCS

TFCS size	60
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1),

	(TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.38j.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 6 codes x 2 time slots
	Max. Number of data bits/radio frame	3 280 bits
	TFCI code word	32 bits
	Puncturing limit	0.64

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

6.11.6.4.1.39.1 Uplink

See clause 6.11.6.4.1.38.1.

6.11.6.4.1.39.2 Downlink

6.11.6.4.1.39.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.25.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.39.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)=(TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.39.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	1 936 bits
	TFCI code word	16 bits

	Puncturing limit	0.68
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6.11.6.4.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.11.6.4.1.40.1 Uplink

6.11.6.4.1.40.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.26.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.40.1.1.4 TFCS

6.11.6.4.1.40.1.1.4.1 TFCS (one CCTrCH case)

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.40.1.1.4.2 TFCS (two CCTrCH case)

6.11.6.4.1.40.1.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.40.1.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.40.1.2 Physical channel parameters

6.11.6.4.1.40.1.2.1 Physical channel (one CCTrCH case)

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF4 x 1 code x 1 time slot

	Max. Number of data bits/radio frame	1 808 bits
	TFCl code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.64 (alt. 0.56)

6.11.6.4.1.40.1.2.2 Physical channel (two CCTrCH case)

6.11.6.4.1.40.1.2.2.1 Physical channel (conversational + SRB)

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCl code word	16 bits
	TPC	2 bit
	Puncturing Limit	0.68

6.11.6.4.1.40.1.2.2.2 Physical channel (Interactive or background)

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.84 (alt. 0.72)

6.11.6.4.1.40.2 Downlink

Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.25.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.40.2.1.4 TFCS

6.11.6.4.1.40.2.1.4.1 TFCS (one CCTrCH case)

See Clause 6.11.6.4.1.39.2.1.4.

6.11.6.4.1.40.2.1.4.2 TFCS (two CCTrCH case)

6.11.6.4.1.40.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.40.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.40.2.2 Physical channel parameters

6.11.6.4.1.40.2.2.1 Physical channel parameters (one CCTrCH)

See clause 6.11.6.4.1.39.2.2.

6.11.6.4.1.40.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.6.4.1.40.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.11.6.4.1.40.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 204 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

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

6.11.6.4.1.41.1 Uplink

See clause 6.11.6.4.1.40.1.

6.11.6.4.1.41.2 Downlink

6.11.6.4.1.41.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.27.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.41.2.1.4 TFCS

6.11.6.4.1.41.2.1.4.1 TFCS (one CCTrCH case)

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

NOTE: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.41.2.1.4.2 TFCS (two CCTrCH case)

6.11.6.4.1.41.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.41.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	5
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.41.2.2 Physical channel parameters

6.11.6.4.1.41.2.2.1 Physical channel parameters (one CCTrCH)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 5codes x 2time slots
	Max. Number of data bits/radio frame	2 744 bits
	TFCI code word	16 bits
	Puncturing limit	0.52

6.11.6.4.1.41.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.6.4.1.41.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

6.11.6.4.1.41.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0,48

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

6.11.6.4.1.42.1 Uplink

6.11.6.4.1.42.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.26.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.42.1.1.4 TFCS

See clause 6.11.6.4.1.40.1.1.4.1.

6.11.6.4.1.42.1.2 Physical channel parameters

See clause 6.11.6.4.1.40.1.2.1.

6.11.6.4.1.42.2 Downlink

6.11.6.4.1.42.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.31.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.42.2.1.4 TFCS

TFCS size	30 (alt. 42)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 256 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.42.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 2 time slots + SF32 x 4 codes x 1 time slot
	Max. Number of data bits/radio frame	5 504 bits (alt. 5 488)

	TFCI code word	16 bits (alt. 32)
	Puncturing limit	0.60

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

6.11.6.4.1.43.1 Uplink

See clause 6.11.6.4.1.40.1.

6.11.6.4.1.43.2 Downlink

6.11.6.4.1.43.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.32.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.43.2.1.4 TFCS

6.11.6.4.1.43.2.1.4.1 TFCS (one CCTrCH case)

TFCS size	36 (alt. 54)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (alt. (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF1, TF0, TF0, TF5, TF0), (TF2, TF1, TF1, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF1, TF0, TF0, TF6, TF0), (TF2, TF1, TF1, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF1, TF0, TF0, TF7, TF0), (TF2, TF1, TF1, TF7, TF0), (TF0, TF0, TF0, TF8, TF0), (TF1, TF0, TF0, TF8, TF0), (TF2, TF1, TF1, TF8, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1), (TF0, TF0, TF0, TF5, TF1), (TF1, TF0, TF0, TF5, TF1), (TF2, TF1, TF1, TF5, TF1), (TF0, TF0, TF0, TF6, TF1), (TF1, TF0, TF0, TF6, TF1), (TF2, TF1, TF1, TF6, TF1), (TF0, TF0, TF0, TF7, TF1), (TF1, TF0, TF0, TF7, TF1), (TF2, TF1, TF1, TF7, TF1), (TF0, TF0, TF0, TF8, TF1), (TF1, TF0, TF0, TF8, TF1), (TF2, TF1, TF1, TF8, TF1))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.43.2.1.4.2 TFCS (two CCTrCH case)

6.11.6.4.1.43.2.1.4.2.1 TFCS (conversational + SRB)

TFCS size	6
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.43.2.1.4.2.2 TFCS (Interactive or background)

TFCS size	6 (alt. 9)
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF0, TF0, TF0, TF5, TF0) (alt. (TF0, TF0, TF0, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF0, TF0, TF0, TF5, TF0), (TF0, TF0, TF0, TF6, TF0), (TF0, TF0, TF0, TF7, TF0), (TF0, TF0, TF0, TF8, TF0))
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.43.2.2 Physical channel parameters

6.11.6.4.1.43.2.2.1 Physical channel parameters (one CCTrCH)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 592 bits
	TFCI code word	32 bits
	Puncturing limit	0.48

6.11.6.4.1.43.2.2.2 Physical channel parameters (two CCTrCHs)

6.11.6.4.1.43.2.2.2.1 Physical channel parameters (conversational + SRB)

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

6.11.6.4.1.43.2.2.2.2 Physical channel parameters (Interactive or background)

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits
	TFCI code word	16 bits
	Puncturing limit	0,52

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

6.11.6.4.1.44.1 Uplink

6.11.6.4.1.44.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.28.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.44.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB , DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.44.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	{SF16 x 1 code + SF4 x 1 code} x 1 time slot
	Max. Number of data bits/radio frame	2 616 bits
	TFCl code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.44)

6.11.6.4.1.44.2 Downlink

6.11.6.4.1.44.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.35.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.44.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 12 codes x 11 time slots
	Max. Number of data bits/radio frame	36 400 bits
	TFCI code word	32 bits
	Puncturing limit	0.52

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

6.11.6.4.1.45.1 Uplink

6.11.6.4.1.45.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.17.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.45.1.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.45.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot + SF8 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 392 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.56

6.11.6.4.1.45.2 Downlink

6.11.6.4.1.45.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.17.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.45.2.1.4 TFCS

TFCS size	30
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 57.6 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0), (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0), (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1), (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1), (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1), (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.45.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 6 codes x 1 time slot
	Max. Number of data bits/radio frame	1 448 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

6.11.6.4.1.46 Void

6.11.6.4.1.47 Void

6.11.6.4.1.48 Void

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

6.11.6.4.1.49.1 Uplink

6.11.6.4.1.49.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

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

See clause 6.11.6.4.1.13.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.49.1.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.49.1.2 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	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72

6.11.6.4.1.49.2 Downlink

6.11.6.4.1.49.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.49.2.1.4 TFCS

TFCS size	12
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0), (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0), (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1), (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.49.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0.76

6.11.6.4.1.49a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.49a.1 Uplink

6.11.6.4.1.49a.1.1 Transport channel parameters

6.11.6.4.1.49a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.1.1.1.

6.11.6.4.1.49a.1.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.11.6.4.1.13.1.1.1.

6.11.6.4.1.49a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.49a.1.1.4 TFCS

TFCS size	24
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TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1, TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4, TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.49a.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	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.72

6.11.6.4.1.49a.2 Downlink

6.11.6.4.1.49a.2.1 Transport channel parameters

6.11.6.4.1.49a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.95 5.9 4.75) kbps / CS RAB

See clause 6.11.6.4.1.4a.2.1.1.

6.11.6.4.1.49a.2.1.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.11.6.4.1.13.2.1.1.

6.11.6.4.1.49a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.49a.2.1.4 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0), (TF1, TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4, TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.49a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 7 codes x 1 time slot
	Max. Number of data bits/radio frame	1 916 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

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

6.11.6.4.1.50.1 Uplink

6.11.6.4.1.50.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.50.1.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.50.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 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	2 784 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.60

6.11.6.4.1.50.2 Downlink

6.11.6.4.1.50.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.50.2.1.3 TFCS

TFCS size	8
TFCS	(64 kbps RAB, 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0) (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.50.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 6codes x 2 time slots
	Max. Number of data bits/radio frame	2 912 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

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

6.11.6.4.1.51.1 Uplink

6.11.6.4.1.51.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.1.1.1.

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

See clause 6.11.6.4.1.26.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.51.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.51.1.2 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	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.44 (alt. 0.40)

6.11.6.4.1.51.2 Downlink

6.11.6.4.1.51.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.25.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.51.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 64 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.51.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	2 192 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.11.6.4.1.51a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.51a.1 Uplink

6.11.6.4.1.51a.1.1 Transport channel parameters

6.11.6.4.1.51a.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.11.6.4.1.13.1.1.1.

6.11.6.4.1.51a.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See clause 6.11.6.4.1.23a.1.1.1.

6.11.6.4.1.51a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.51a.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) (alt. (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.51a.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	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.76

6.11.6.4.1.51a.2 Downlink

6.11.6.4.1.51a.2.1 Transport channel parameters

6.11.6.4.1.51a.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / PS RAB

See clause 6.11.6.4.1.13.2.1.1.

6.11.6.4.1.51a.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See clause 6.11.6.4.1.23.2.1.1.

6.11.6.4.1.51a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.51a.2.1.4 TFCS

TFCS size	8
TFCS	(64 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.51a.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 6 codes x 1 time slot
	Max. Number of data bits/radio frame	1 640 bits
	TFCI code word	16 bits
	Puncturing limit	0.60

6.11.6.4.1.51b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.1.51b.1 Uplink

6.11.6.4.1.51b.1.1 Transport channel parameters

6.11.6.4.1.51b.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.11.6.4.1.13.1.1.1.

6.11.6.4.1.51b.1.1.2 Transport channel parameters for Interactive or Background / UL:16 kbps / PS RAB

See clause 6.11.6.4.1.23b.1.1.1.

6.11.6.4.1.51b.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.51b.1.1.4 TFCS

TFCS size	12
TFCS	(64 kbps Conversational RAB, 16 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.51b.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	2 064 bits
	TFCI code word	16 bit
	TPC	2 bits
	Puncturing Limit	0.68

6.11.6.4.1.51b.2 Downlink

See clause 6.11.6.4.1.51.2.

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

6.11.6.4.1.52.1 Uplink

See clause 6.11.6.4.1.51.1.

6.11.6.4.1.52.2 Downlink

6.11.6.4.1.52.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.27.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.52.2.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.52.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	{SF32 x 8 codes x 1 time slot} + {SF32 x 5 codes x 1 time slot}
	Max. Number of data bits/radio frame	3 156 bits
	TFCI code word	16 bits
	Puncturing limit	0.44

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

6.11.6.4.1.53.1 Uplink

6.11.6.4.1.53.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.1.1.1.

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

See clause 6.11.6.4.1.28.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.53.1.1.4 TFCS

TFCS size	20
TFCS	(Conv. 64 kbps RAB, I/B 128kbps RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF3, TF0), (TF0, TF4, TF0), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF3, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF0, TF3, TF1), (TF0, TF4, TF1), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1), (TF1, TF3, TF1), (TF1, TF4, TF1)
NOTE:	In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.

6.11.6.4.1.53.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF4 x 1 code x 2 timeslots
	Max. Number of data bits/radio frame	3 760 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)

6.11.6.4.1.53.2 Downlink

See clause 6.11.6.4.1.52.2.

- 6.11.6.4.1.54 Void
- 6.11.6.4.1.55 Void
- 6.11.6.4.1.56 Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.1.56.1 Uplink
- 6.11.6.4.1.56.1.1 Transport channel parameters
- 6.11.6.4.1.56.1.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB + UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB	
RLC	Logical channel type	DTCH	DTCH	
	RLC mode	AM	AM	
	Payload sizes, bit	320 (alt. 128)	320 (alt.128)	
	Max data rate, bps	8 000	8 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340 (alt. 148)		
	TFS	TF0, bits	0x340 (alt. 0x148)	
		TF1, bits	1x340 (alt. 1x148)	
		TF2, bits	N/A (alt. 5x148)	
	TTI, ms	40 (alt. 80)		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI after channel coding	1 080 (alt. 2 472)		
	Max number of bits/radio frame before rate matching	270 (alt. 309)		
RM attribute	135 to 175			

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

See clause 6.11.6.4.1.2.1.1.1.

- 6.11.6.4.1.56.1.1.3 TFCS

TFCS size	4 (alt. 6)
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF0,TF1), (TF1,TF1) (alt. (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.11.6.4.1.56.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	226 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.48)
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits (alt. 16 bits).	

- 6.11.6.4.1.56.2 Downlink
- 6.11.6.4.1.56.2.1 Transport channel parameters
- 6.11.6.4.1.56.2.1.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB + DL:8 kbps / PS RAB

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

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

See clause 6.11.6.4.1.2.2.1.1.

- 6.11.6.4.1.56.2.1.3 TFCS

TFCS size	4
TFCS	(8 kbps RAB + 8 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF0,TF1), (TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.11.6.4.1.56.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.56
NOTE:	In case the first TFC in the TFCS is not configured, the TFCI code word will be 8 bits.	

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

- 6.11.6.4.1.57.1 Uplink

- 6.11.6.4.1.57.1.1 Transport channel parameters

- 6.11.6.4.1.57.1.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB + UL:64 kbps / PS RAB

See clause 6.11.6.4.1.38d.1.1.2.

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

See clause 6.11.6.4.1.2.1.1.1.

- 6.11.6.4.1.57.1.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.57.1.2 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	2 064 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.88 (alt. 0.76)

6.11.6.4.1.57.2 Downlink

6.11.6.4.1.57.2.1 Transport channel parameters

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

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

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.57.2.1.3 TFCS

TFCS size	10
TFCS	(64 kbps RAB + 64 kbps RAB, DCCH)= (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.57.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot
	Max. Number of data bits/radio frame	1 364 bits
	TFCI code word	16 bits
	Puncturing limit	0.56

- 6.11.6.4.1.58 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.1.58.1 Uplink
- 6.11.6.4.1.58.1.1 Transport channel parameters
- 6.11.6.4.1.58.1.1.1 Transport channel parameters for Streaming / unknown / UL:16 kbps / PS RAB

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

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

See clause 6.11.6.4.1.23a.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

- 6.11.6.4.1.58.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(16 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1) (alt. (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF0,TF2,TF0), (TF1,TF2,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF0,TF2,TF1), (TF1,TF2,TF1))
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

- 6.11.6.4.1.58.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot + SF32 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	696 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.72 (alt. 0.68)

- 6.11.6.4.1.58.2 Downlink
- 6.11.6.4.1.58.2.1 Transport channel parameters
- 6.11.6.4.1.58.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	64 000	
	AMPDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8 076	
	Max number of bits/radio frame before rate matching	2 019	
	RM attribute	125 to 165	

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

See clause 6.11.6.4.1.23.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.58.2.1.4 TFCS

TFCS size	16
TFCS	(64 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.58.2.2 Physical channel parameters

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF32 x6 codes x1 time slot
	Max. Number of data bits/radio frame	1 640 bits
	TFCI code word	16 bits
	Puncturing limit	0.64

6.11.6.4.1.59 Reserved for future use

6.11.6.4.1.60 Reserved for future use

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

6.11.6.4.1.61.1 Uplink

6.11.6.4.1.61.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	320

	Max data rate, bps	8 000	
	UMD PDU header, bit	8	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	328 (alt 0, 328)	
	TFS	TF0, bits	0x328 (alt 1x0) (note)
		TF1, bits	1x328
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1 044	
	Max number of bits/radio frame before rate matching	261	
RM attribute	135 to 175		
NOTE: In case of using this alternative, CRC parity bits are to be attached any time since number of TrBIs are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).			

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

See clause 6.11.6.4.1.23a.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.1.61.1.1.4 TFCS

TFCS size	8 (alt. 12)
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) (alt. (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1))
NOTE: In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.	

6.11.6.4.1.61.1.2 Physical channel parameters

DPCH Uplink	Midamble	1024 chips
	Codes and time slots	SF16 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	452 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.68 (alt. 0.64)

6.11.6.4.1.61.2 Downlink

6.11.6.4.1.61.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	UM
	Payload sizes, bit	320
	Max data rate, bps	8 000
	AMD PDU header, bit	8
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	328 (alt 0, 328)
	TFS	TF0, bits

	TF1, bits	1x328
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	1 044
	Max number of bits/radio frame before rate matching	261
	RM attribute	135 to 175
NOTE:	In case of using this alternative, CRC parity bits are to be attached any time since number of TrBlks are 1 even if there is no data on the RAB (see clause 4.2.1.1 in 3GPP TS 25.222 [29]).	

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

See clause 6.11.6.4.1.23.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.1.61.2.1.4 TFCS

TFCS size	8
TFCS	(8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)
NOTE:	In case TB size zero is configured for any transport channel the first TFC is required; it is optional otherwise.

6.11.6.4.1.61.2.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.68

6.11.6.4.2 Combinations on PDSCH, SCCPCH, PUSCH and PRACH

6.11.6.4.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.6.4.2.1.1 Uplink

6.11.6.4.2.1.1.1 Transport channel parameters

6.11.6.4.2.1.1.1.1 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB and UL SRB for SHCCH mapped on USCH

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	TM	
	Payload sizes, bit	320 (alt. 128)	168	
	Max data rate, bps	64 000	16 800	
	AMD/TrD PDU header, bit	16	0	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	USCH	USCH	
	TB sizes, bit	337 (alt. 145)	169	
	TFS	TF0, bits	0x337 (alt. 0x145)	0x169
		TF1, bits	1x337 (alt. 1x145)	1x169
		TF2, bits	2x337 (alt. 3x145)	N/A
		TF3, bits	3x337 (alt. 7x145)	N/A
		TF4, bits	4x337 (alt. 10x145)	N/A
	TTI, ms	20	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	

	Max number of bits/TTI after channel coding	4 248 (alt. 4 842)	386
	Max number of bits/radio frame before rate matching	2 124 (alt. 2 421)	386
	RM attribute	135 to 175	230 to 250

6.11.6.4.2.1.1.1.2 Transport channel parameters for UL: 3.4 Kbps SRBs for DCCH mapped on USCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	3 400	3 200	3 200	3 200
	AMD/UMD PDU header, bit	8	16	16	16
MAC	MAC header, bit	5	5	5	5
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	USCH			
	TB sizes, bit	149			
	TFS	TF0, bits	0x149		
		TF1, bits	1x149		
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	519			
	Max number of bits/radio frame before rate matching	130			
	RM attribute	190 to 210			

6.11.6.4.2.1.1.1.3 TFCS for USCH

TFCS size	20
TFCS	(64 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1)

6.11.6.4.2.1.1.1.4 Transport channel parameters for SRB for CCCH and UL SRBs for DCCH and UL SRB for SHCCH mapped on RACH

6.11.6.4.2.1.1.1.4.1 RACH transport channel configuration without DTCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH
	RLC mode	TM	UM	AM	AM	AM	TM
	Payload sizes, bit	168	136	128	128	128	168
	Max data rate, bps	16 800	13 600	12 800	12 800	12 800	16 800
	AMD/UMD/TrD PDU header, bit	0	8	16	16	16	0
MAC	MAC header, bit	2	26	26	26	26	2
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	RACH					
	TB sizes, bit	170					
	TFS TF0, bits	1x170					
	TTI, ms	10					
	Coding type	CC 1/2					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	388					
	Max number of bits/radio frame before rate matching	388					

6.11.6.4.2.1.1.1.4.2 RACH transport channel configuration with DTCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH
	RLC mode	AM	TM	UM	AM	AM	AM	TM
	Payload sizes, bit	128	168	136	128	128	128	168
	Max data rate, bps	12 800	16 800	13 600	12 800	12 800	12 800	16 800
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16	0
MAC	MAC header, bit	26	2	26	26	26	26	2
	MAC multiplexing	7 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	170						
	TFS	TF0, bits	1x170					
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI after channel coding	388						
	Max number of bits/radio frame before rate matching	388						

6.11.6.4.2.1.1.2 Physical channel parameters

6.11.6.4.2.1.1.2.1 Physical channel parameters for PUSCH

PUSCH	Midamble	1024 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.60 (alt. 0.56)

6.11.6.4.2.1.1.2.2 Physical channel parameters for PRACH

PRACH	Midamble	1024 chips
	Codes and time slots	SF16 (alt. SF32) x 1 code x 1 time slot
	Max. Number of data bits/radio frame	464 (alt. 232)
	Puncturing Limit	1 (alt. 0.56)

6.11.6.4.2.1.2 Downlink

6.11.6.4.2.1.2.1 Transport channel parameters

6.11.6.4.2.1.2.1.1 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5
RLC	Logical channel type	DTCH	SHCCH
	RLC mode	AM	UM
	Payload sizes, bit	320	160
	Max data rate, bps	256 000	16 000
	AMD/UMD PDU header, bit	16	8
MAC	MAC header, bit	1	1
	MAC multiplexing	N/A	N/A
Layer 1	TrCH type	DSCH	DSCH
	TB sizes, bit	337	169

	TFS	TF0, bits	0x337	0x169
		TF1, bits	1x337	1x169
		TF2, bits	2x337	N/A
		TF3, bits	4x337	N/A
		TF4, bits	8x337	N/A
		TF5, bits	N/A (alt. 12x337)	N/A
		TF6, bits	N/A (alt. 16x337)	N/A
	TTI, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
	CRC, bit	16	16	
	Max number of bits/TTI after channel coding	8 484 (alt. 16 968)	386	
	Downlink: Max number of bits/radio frame before rate matching	8 484 (alt. 8 484)	386	
RM attribute	135 to 175	230 to 250		

6.11.6.4.2.1.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	3 400	3 200	3 200	3 200	
	AMD/UMD PDU header, bit	8	16	16	16	
MAC	MAC header, bit	5	5	5	5	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DSCH				
	TB sizes, bit	149				
	TFS	TF0, bits	0x149			
		TF1, bits	1x149			
	TTI, ms	40				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	519				
	Max number of bits/radio frame before rate matching	130				
	RM attribute	155 to 165				

6.11.6.4.2.1.2.1.3 TFCS for DSCH

TFCS size	20 (alt. 28)
TFCS	(256 kbps RAB, SHCCH, SRB for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1))

6.11.6.4.2.1.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

6.11.6.4.2.1.2.1.4.1 FACH transport channel configuration without DTCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	160	136 or 120 (note)	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	8	8	16	16	16	8	0	
MAC	MAC header, bit	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	7 logical channel multiplexing							
Layer 1	TrCH type	FACH							
	TB sizes, bit	171							
	TFS	TF0, bits	0x171						
		TF1, bits	1x171						
		TF2, bits	2x171						
		TF3, bits	3x171(alt. N/A)						
		TF4, bits	4x171(alt. N/A)						
	TTI, ms	20							
	Coding type	TC							
	CRC, bit	16							
	Max number of bits/TTI after channel coding	2 256 (alt. 1 134)							
Max number of bits/radio frame before rate matching	1 128 (alt. 567)								
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.									

6.11.6.4.2.1.2.1.4.2 FACH transport channel configuration with DTCH

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	RRC	
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	SHCCH	BCCH	
	RLC mode	AM	UM	UM	AM	AM	AM	UM	TM	
	Payload sizes, bit	320	160	136 or 120 (note)	128	128	128	160	168	
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 13 600 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	32 000 (alt. 16 000)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	16	8	8	16	16	16	8	0	
MAC	MAC header, bit	27	3	27 or 43	27	27	27	3	3	
	MAC multiplexing	8 logical channel multiplexing								
Layer 1	TrCH type	FACH								
	TB sizes, bit	171, 363								
	TFS	TF0, bits	0x171							
		TF1, bits	1x171							
		TF2, bits	2x171							
		TF3, bits	1x363							
		TF4, bits	3x171 (alt N/A)							
		TF5, bits	4x171 (alt. N/A)							
		TF6, bits	2x363 (alt. N/A)							
	TTI, ms	20								
	Coding type	TC								
	CRC, bit	16								
Max number of bits/TTI after channel coding	2 286 (alt. 1 149)									
Max number of bits/radio frame before rate matching	1 143 (alt. 575)									
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.										

6.11.6.4.2.1.2.1.5 TFCS for FACH

6.11.6.4.2.1.2.1.5.1 TFCS for FACH transport channel configuration without DTCH

TFCS size	5 (alt. 3)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. FACH = (TF0), (TF1), (TF2))

6.11.6.4.2.1.2.1.5.2 TFCS for FACH transport channel configuration with DTCH

TFCS size	7 (alt. 4)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4), (TF5), (TF6) (alt. FACH = (TF0), (TF1), (TF2), (TF3))

6.11.6.4.2.1.2.2 Physical channel parameters

6.11.6.4.2.1.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing Limit	0.44

6.11.6.4.2.1.2.2.2 Physical channel parameters for SCCPCH

6.11.6.4.2.1.2.2.2.1 Physical channel parameters for SCCPCH without DTCH

SCCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)
	Puncturing Limit	1 (alt. 0.84)

6.11.6.4.2.1.2.2.2.2 Physical channel parameters for SCCPCH with DTCH

SCCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472 bits)
	TFCI code word	16 bits
	Puncturing Limit	1 (alt. 0.80)

6.11.6.4.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH+ UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.6.4.2.2.1 Uplink

See clause 6.11.6.4.2.1.1.

6.11.6.4.2.2.2 Downlink

6.11.6.4.2.2.2.1 Transport channel parameters

6.11.6.4.2.2.2.1.1 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5
RLC	Logical channel type	DTCH	SHCCH
	RLC mode	AM	UM
	Payload sizes, bit	320	160
	Max data rate, bps	384 000	16 000
	AMD/UMD PDU header, bit	16	8

MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DSCH	DSCH	
	TB sizes, bit	337	169	
	TFS	TF0, bits	0x337	0x169
		TF1, bits	1x337	1x169
		TF2, bits	2x337	N/A
		TF3, bits	4x337	N/A
		TF4, bits	8x337	N/A
		TF5, bits	12x337	N/A
		TF6, bits	N/A (alt. 16x337)	N/A
		TF7, bits	N/A (alt. 20x337)	N/A
	TF8, bits	N/A (alt. 24x337)	N/A	
	TTI, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
CRC, bit	16	16		
Max number of bits/TTI after channel coding	12 720 (alt. 25 440)	386		
Downlink: Max number of bits/radio frame before rate matching	12 720 (alt. 12 720)	386		
RM attribute	135 to 175	230 to 250		

6.11.6.4.2.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.11.6.4.2.1.2.1.2.

6.11.6.4.2.2.1.3 TFCS for DSCH

TFCS size	24 (alt. 36)
TFCS	(384 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1))

6.11.6.4.2.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH (with & without DTCH)

See clause 6.11.6.4.2.1.2.1.4.

6.11.6.4.2.2.1.5 TFCS for FACH

See clause 6.11.6.4.2.1.2.1.5.

6.11.6.4.2.2.2 Physical channel parameters

6.11.6.4.2.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits (alt. 6 592 bits)
	TFCI code word	16 bits (alt. 32 bits)
	Puncturing Limit	0.48

6.11.6.4.2.2.2.2 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.

6.11.6.4.2.3 Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.6.4.2.3.1 Uplink

See clause 6.11.6.4.2.1.1.

6.11.6.4.2.3.2 Downlink

6.11.6.4.2.3.2.1 Transport channel parameters

6.11.6.4.2.3.2.1.1 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	UM	
	Payload sizes, bit	640	160	
	Max data rate, bps	2 048 000	16 000	
	AMD/UMD PDU header, bit	16	8	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	DSCH	DSCH	
	TB sizes, bit	657	169	
	TFS	TF0, bits	0x657	0x169
		TF1, bits	1x657	1x169
		TF2, bits	2x657	N/A
		TF3, bits	4x657	N/A
		TF4, bits	8x657	N/A
		TF5, bits	12x657	N/A
		TF6, bits	16x657	N/A
		TF7, bits	20x657	N/A
		TF8, bits	24x657	N/A
		TF9, bits	28x657	N/A
		TF10, bits	30x657 (alt. 32x657)	N/A
		TF11, bits	N/A (alt. 36x657)	N/A
		TF12, bits	N/A (alt. 40x657)	N/A
		TF13, bits	N/A (alt. 44x657)	N/A
		TF14, bits	N/A (alt. 48x657)	N/A
		TF15, bits	N/A (alt. 52x657)	N/A
		TF16, bits	N/A (alt. 56x657)	N/A
		TF17, bits	N/A (alt. 60x657)	N/A
	TF18, bits	N/A (alt. 64x657)	N/A	
	TTL, ms	10 (alt. 20)	10	
	Coding type	TC	CC 1/2	
CRC, bit	16	16		
Max number of bits/TTL after channel coding	60 624 (alt. 129 330)	386		
Downlink: Max number of bits/radio frame before rate matching	60 624 (alt. 64 665)	386		
RM attribute	135 to 175	230 to 250		

6.11.6.4.2.3.2.1.2 Transport channel parameters for DL: 3.4 Kbps SRBs for DCCH mapped on DSCH

See clause 6.11.6.4.2.1.2.1.2.

6.11.6.4.2.3.2.1.3 TFCS for DSCH

TFCS size	41 (alt.76)
TFCS	(2 048 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0), (TF10, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1),

(TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF9, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0), (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0), (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF18, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0), (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF18, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF18, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1), (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1), (TF18, TF1, TF1))

6.11.6.4.2.3.2.1.4 Transport channel parameters for DL SRBs for DCCH and SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.6.4.2.1.2.1.4.1.

6.11.6.4.2.3.2.1.5 TFCS for FACH

See clause 6.11.6.4.2.1.2.1.45.1.

6.11.6.4.2.3.2.2 Physical channel parameters

6.11.6.4.2.3.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
	Codes and time slots	SF32 x 12 codes x 11 time slots
	Max. Number of data bits/radio frame	36 400 bits
	TFCI code word	32 bits
	Puncturing Limit	0.56 (alt. 0.52)

6.11.6.4.2.3.2.2.2 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.1.

6.11.6.4.2.4 Interactive or background / UL: 384 DL: 2 048 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

6.11.6.4.2.4.1 Uplink

6.11.6.4.2.4.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	SRB#5	
RLC	Logical channel type	DTCH	SHCCH	
	RLC mode	AM	TM	
	Payload sizes, bit	320 (alt. 128)	168	
	Max data rate, bps	384 000	16 800	
	AMD/TrD PDU header, bit	16	0	
MAC	MAC header, bit	1	1	
	MAC multiplexing	N/A	N/A	
Layer 1	TrCH type	USCH	USCH	
	TB sizes, bit	337 (alt. 145)	169	
	TFS	TF0, bits	0x337 (alt. 0x145)	0x169
		TF1, bits	1x337 (alt. 1x145)	1x169

	TF2, bits	2x337 (alt. 5x145)	N/A
	TF3, bits	4x337 (alt. 10x145)	N/A
	TF4, bits	8x337 (alt. 20x145)	N/A
	TF5, bits	12x337 (alt. 30x145)	N/A
	TF6, bits	16x337 (alt. 40x145)	N/A
	TF7, bits	20x337 (alt. 50x145)	N/A
	TF8, bits	24x337 (alt. 60x145)	N/A
	TTL, ms	20	10
	Coding type	TC	CC 1/2
	CRC, bit	16	16
	Max number of bits/TTL after channel coding	25 440 (alt. 29 004)	386
	Max number of bits/radio frame before rate matching	12 720 (alt. 14 502)	386
	RM attribute	135 to 175	230 to 250

6.11.6.4.2.4.1.1.2 Transport channel parameters for UL: 3.4 Kbps SRBs for DCCH mapped on USCH

See clause 6.11.6.4.2.1.1.1.2.

6.11.6.4.2.4.1.1.3 TFCS for USCH

TFCS size	36
TFCS	(384 kbps RAB, SHCCH, SRBs for DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0), (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1) (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1)

6.11.6.4.2.4.1.1.4 Transport channel parameters for SRB for CCCH and UL SRBs for DCCH and UL SRB for SHCCH mapped on RACH

See clause 6.11.6.4.2.1.1.1.4.

6.11.6.4.2.4.1.2 Physical channel parameters

6.11.6.4.2.4.1.2.1 Physical channel parameters for PUSCH

PUSCH	Midamble	1024 chips
	Codes and time slots	SF2 x 1 code x 2 time slots
	Max. Number of data bits/radio frame	7 264 bits
	TFCI code word	32 bits
	TPC	2 bits
	Puncturing Limit	0.52 (alt. 0.44)

6.11.6.4.2.4.1.2.2 Physical channel parameters for PRACH

See clause 6.11.6.4.2.1.1.2.2.

6.11.6.4.2.4.2 Downlink

6.11.6.4.2.4.2.1 Transport channel parameters

See clause 6.11.6.4.2.3.2.1.

6.11.6.4.2.4.2.2 Physical channel parameters

6.11.6.4.2.4.2.2.1 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
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	Codes and time slots	SF1 x 1 codes x 4 time slots
	Max. Number of data bits/radio frame	35 296 bits
	TFCI code word	32 bits
	Puncturing Limit	0.56 (alt. 0.52)

6.11.6.4.2.4.2.2.2 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.1.

6.11.6.4.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

6.11.6.4.3.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps
SRBs for DCCH + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL:
16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH SHCCH and
BCCH

6.11.6.4.3.1.1 Uplink

6.11.6.4.3.1.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.3.1.1.1.2 Transport channel parameters for UL SRBs for DCCH

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.3.1.1.1.3 TFCS for DCH

See clause 6.11.6.4.1.4.1.1.3.

6.11.6.4.3.1.1.1.4 Transport channel parameters for Interactive or background / UL: 64 kbps / PS RAB
and UL SRB for SHCCH mapped on USCH

See clause 6.11.6.4.2.1.1.1.1.

6.11.6.4.3.1.1.1.5 TFCS for USCH

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

6.11.6.4.3.1.1.1.6 Transport channel parameters for SRB for CCCH and UL SRB for SHCCH mapped on
RACH

Higher layer	RAB/signalling RB	SRB#0	SRB#5
	User of Radio Bearer	RRC	RRC
RLC	Logical channel type	CCCH	SHCCH
	RLC mode	TM	TM
	Payload sizes, bit	168	168
	Max data rate, bps	16 800	16 800
	TrD PDU header, bit	0	0
MAC	MAC header, bit	2	2
	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	RACH	
	TB sizes, bit	170	
	TF0, bits	1x170	
	TTI, ms	10	
	Coding type	CC 1/2	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	388	
	Max number of bits/radio frame before rate matching	388	

6.11.6.4.3.1.1.2 Physical channel parameters

6.11.6.4.3.1.1.2.1 Physical channel parameters for DPCH

See clause 6.11.6.4.1.4.1.2.

6.11.6.4.3.1.1.2.2 Physical channel parameters for PUSCH

PUSCH	Midamble	1024 chips
	Codes and time slots	SF4 x 1 code x 1 time slot
	Max. Number of data bits/radio frame	1 808 bits
	TFCI code word	16 bits
	TPC	2 bits
Puncturing Limit		0.76 (alt. 0.68)

6.11.6.4.3.1.1.2.3 Physical channel parameters for PRACH

See clause 6.11.6.4.2.1.1.2.2.

6.11.6.4.3.1.2 Downlink

6.11.6.4.3.1.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.3.1.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.3.1.2.1.3 TFCS for DCH

See clause 6.11.6.4.1.4.2.1.3.

6.11.6.4.3.1.2.1.4 Transport channel parameters for Interactive or background / DL: 256 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.11.6.4.2.1.2.1.1.

6.11.6.4.3.1.2.1.5 TFCS for DSCH

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

6.11.6.4.3.1.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

Higher layer	RAB/Signalling RB	SRB#0	SRB#5	SRB#6
	User of Radio Bearer	RRC	RRC	RRC
RLC	Logical channel type	CCCH	SHCCH	BCCH
	RLC mode	UM	UM	TM
	Payload sizes, bit	160	160	168
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)	33 600 (alt. 16 800)
	UMD/TrD PDU header, bit	8	8	0
MAC	MAC header, bit	3		
	MAC multiplexing	3 logical channel multiplexing		
Layer 1	TrCH type	FACH		
	TB sizes, bit	171		
	TFS	TF0, bits	0x171	
		TF1, bits	1x171	

	TF2, bits	2x171
	TF3, bits	3x171 (alt. N/A)
	TF4, bits	4x171 (alt. N/A)
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	2 256 (alt. 1 134)
	Max number of bits/radio frame before rate matching	1 128 (alt 567)

6.11.6.4.3.1.2.1.7 TFCS for FACH

TFCS size	5 (alt. 3)
TFCS	FACH = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. FACH = (TF0), (TF1), (TF2))

6.11.6.4.3.1.2.2 Physical channel parameters

6.11.6.4.3.1.2.2.1 Physical channel parameters for DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.3.1.2.2.2 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 2 time slots
	Max. Number of data bits/radio frame	4 400 bits
	TFCI code word	16 bits
	Puncturing Limit	0.48

6.11.6.4.3.1.2.2.3 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.1.

6.11.6.4.3.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

6.11.6.4.3.2.1 Uplink

See clause 6.11.6.4.3.1.1.

6.11.6.4.3.2.2 Downlink

6.11.6.4.3.2.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.3.2.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.3.2.2.1.3 TFCS for DCH

See clause 6.11.6.4.1.4.2.1.3.

6.11.6.4.3.2.2.1.4 Transport channel parameters for Interactive or background / DL: 384 kbps / PS RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.11.6.4.2.2.2.1.1.

6.11.6.4.3.2.2.1.5 TFCS for DSCH

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

6.11.6.4.3.2.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.6.4.3.1.2.1.6.

6.11.6.4.3.2.2.1.7 TFCS for FACH

See clause 6.11.6.4.3.1.2.1.7.

6.11.6.4.3.2.2.2 Physical channel parameters

6.11.6.4.3.2.2.2.1 Physical channel parameters for downlink DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.3.2.2.2.2 Physical channel parameters for PDSCH

PDSCH	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 3 time slots
	Max. Number of data bits/radio frame	6 608 bits
	TFCI code word	16 bits
	Puncturing Limit	0.48

6.11.6.4.3.2.2.2.3 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.1.

6.11.6.4.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps
SRBs for DCCH + Interactive or background / UL: 64 DL: 2 048 kbps / PS RAB + UL:
16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH, SHCCH and
BCCH

6.11.6.4.3.3.1 Uplink

See clause 6.11.6.4.3.1.1.

6.11.6.4.3.3.2 Downlink

6.11.6.4.3.3.2.1 Transport channel parameters

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

See clause 6.11.6.4.1.4.2.1.1.

6.11.6.4.3.3.2.1.2 Transport channel parameters for DL SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.3.3.2.1.3 TFCS for DCH

See clause 6.11.6.4.1.4.2.1.3.

6.11.6.4.3.3.2.1.4 Transport channel parameters for Interactive or background / DL: 2 048 kbps / PS
RAB and DL SRB for SHCCH mapped on DSCH

See clause 6.11.6.4.2.3.2.1.1.

6.11.6.4.3.3.2.1.5 TFCS for DSCH

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

6.11.6.4.3.3.2.1.6 Transport channel parameters for SRB for CCCH and SRB for BCCH and DL SRB for SHCCH mapped on FACH

See clause 6.11.6.4.3.1.2.1.6.

6.11.6.4.3.3.2.1.7 TFCS for FACH

See clause 6.11.6.4.3.1.2.1.7.

6.11.6.4.3.3.2.2 Physical channel parameters

6.11.6.4.3.3.2.2.1 Physical channel parameters for downlink DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.3.3.2.2.2 Physical channel parameters for PDSCH

DPCH Downlink	Midamble	512 chips
	Codes and time slots	SF1 x 1 code x 4 time slot
	Max. Number of data bits/radio frame	35 312 bits (alt. 35 296)
	TFCI code word	16 bits (alt. 32 bits)
	Puncturing limit	0.56 (alt. 0.52)

6.11.6.4.3.3.2.2.3 Physical channel parameters for SCCPCH

See clause 6.11.6.4.2.1.2.2.2.1.

6.11.6.4.4 Combinations on SCCPCH

6.11.6.4.4.1 Stand-alone signalling RB for PCCH

6.11.6.4.4.1.1 Transport channel parameters

6.11.6.4.4.1.1.1 Transport channel parameter of SRB for PCCH

Higher layer	RAB/signalling RB	SRB	
	User of Radio Bearer	RRC	
RLC	Logical channel type	PCCH	
	RLC mode	TM	
	Payload sizes, bit	240 (alt. 80)	
	Max data rate, bps	12 000 (alt. 8 000)	
	TrD PDU header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	PCH	
	TB sizes, bit	240 (alt. 80)	
	TFS	TF0, bits	0x240 (alt. 0x80)
		TF1, bits	1x240 (alt. 1x80)
		TF2, bits	N/A (alt. 2x80)
	TTI, ms	20	

	Coding type	CC 1/2
	CRC, bit	16
	Max number of bits/TTI before rate matching	528 (alt. 400)
	Max number of bits/radio frame before rate matching	264 (alt. 200)
	RM attribute	210 to 250

6.11.6.4.4.1.1.2 TFCS

TFCS size	2 (alt. 3)
TFCS	SRBs for PCCH = (TF0), (TF1) (alt. (TF0), (TF1), (TF2))

6.11.6.4.4.1.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot (alt. SF32 x 1 code x 1 time slot)
	Max. Number of data bits/radio frame	480 bits (alt. 236 bits)
	TFCI code word	8 bits
	Puncturing limit	1

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

6.11.6.4.4.2.1 Transport channel parameters

6.11.6.4.4.2.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB

Higher layer	RAB/signalling RB	RAB		
	User of Radio Bearer	Interactive/ Background RAB		
RLC	Logical channel type	DTCH		
	RLC mode	AM		
	Payload sizes, bit	320		
	Max data rate, bps	32 000 (alt. 16 000)		
	AMD PDU header, bit	16		
MAC	MAC header, bit	27		
	MAC multiplexing	N/A		
Layer 1	TrCH type	FACH		
	TB sizes, bit	363		
	TFS	TF0, bits	0 x363	
		TF1, bits	1x363	
		TF2, bits	2x363 (alt. N/A)	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI before rate matching	2 286 (alt. 1 149)		
	Max number of bits/radio frame before rate matching	1 143 (alt. 575)		
	RM attribute	110 to 150		

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

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode	UM	UM	AM	AM	AM	TM
	Payload sizes, bit	160	136 or 120 (note)	128	128	128	168

	Max data rate, bps	32 000 (alt. 16 000)	27 200 or 24 000 (alt. 24 000 or 12 000)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	25 600 (alt. 12 800)	33 600 (alt. 16 800)	
	AMD/UMD/TrD PDU header, bit	8	8	16	16	16	0	
MAC	MAC header, bit	3	27 or 43	27	27	27	3	
	MAC multiplexing	6 logical channel multiplexing						
Layer 1	TrCH type	FACH						
	TB sizes, bit	171						
	TFS	TF0, bits	0x171					
		TF1, bits	1x171					
		TF2, bits	2x171					
		TF3, bits	3x171 (alt. N/A)					
		TF4, bits	4x171 (alt. N/A)					
	TTI, ms	20						
	Coding type	TC						
	CRC, bit	16						
	Max number of bits/TTI before rate matching	2 256 (alt. 1 134)						
Max number of bits/radio frame before rate matching	1 128 (alt. 567)							
RM attribute	200 to 240							
NOTE: MAC header size and RLC payload size depend on use of U-RNTI or C-RNTI.								

6.11.6.4.4.2.1.3 TFCS

TFCS size	9 (alt. 4)
TFCS	(32kbps RAB, SRBs for CCCH/DCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF2, TF0) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0))
NOTE:	First TFCS applies when the alternative for the 32 kbps RAB and the alternative for the SRBs for CCCH/DCCH/BCCH are both not configured. The alt. TFCS applies when both the alt. for the 32 kbps RAB and the alt. for the SRBs for CCCH/DCCH/BCCH are configured. All other combinations of these alternatives are not valid.

6.11.6.4.4.2.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472)
	TFCI code word	16 bits
	Puncturing limit	0.60 (alt. 0.48)

6.11.6.4.4.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

6.11.6.4.4.2a.1 Transport channel parameters

6.11.6.4.4.2a.1.1 Transport channel parameters for Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB

Higher layer	RAB/Signalling RB	RAB	RAB
	User of Radio Bearer	Interactive/Background RAB	Interactive/Background RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320
	Max data rate, bps	32 000 (alt. 16 000)	32 000 (alt. 16 000)
	AMD PDU header, bit	16	16
MAC	MAC header, bit	27	27

	MAC multiplexing	2 logical channel multiplexing	
Layer 1	TrCH type	FACH	
	TB sizes, bit	363	
	TFS	TF0, bits	0x363
		TF1, bits	1x363
		TF2, bits	2x363 (alt. N/A)
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI before rate matching	2 286 (alt. 1 149)	
	Max number of bits/radio frame before rate matching	1 143 (alt. 575)	
RM attribute	110 to 150		

6.11.6.4.4.2a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.6.4.4.2.1.2.

6.11.6.4.4.2a.1.3 TFCS

TFCS size	9 (alt. 4)
TFCS	(32kbps RAB + 32kbps RAB, SRBs for CCCH/DCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF2, TF0) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0))
NOTE:	First TFCS applies when the alternative for the 32 kbps RABs and the alternative for the SRBs for CCCH/DCCH/BCCH are both not configured. The alt. TFCS applies when both the alt. for the 32 kbps RABs and the alt. for the SRBs for CCCH/DCCH/BCCH are configured. All other combinations of these alternatives are not valid.

6.11.6.4.4.2a.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 472)
	TFCI code word	16 bits
	Puncturing limit	0.60 (alt. 0.48)

6.11.6.4.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

6.11.6.4.4.2b.1 Transport channel parameters

6.11.6.4.4.2b.1.1 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.6.4.4.2.1.2.

6.11.6.4.4.2b.1.2 TFCS

TFCS size	5 (alt. 3)
TFCS	(SRBs for CCCH/DCCH/BCCH) = (TF0), (TF1), (TF2), (TF3), (TF4) (alt. (TF0), (TF1), (TF2))

6.11.6.4.4.2b.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)

	Puncturing limit		1 (alt. 0.84)
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6.11.6.4.4.3 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

6.11.6.4.4.3.1 Transport channel parameters

6.11.6.4.4.3.1.1 Transport channel parameters for Interactive/Background 32 kbps RAB

See clause 6.11.6.4.4.2.1.1.

6.11.6.4.4.3.1.2 Transport channel parameters of SRB for PCCH

See clause 6.11.6.4.4.1.1.1.

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

See clause 6.11.6.4.4.2.1.2.

6.11.6.4.4.3.1.4 TFCS

TFCS size	30 (alt. 8)
TFCS	(32 kbps RAB, SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH) = (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF0, TF2), (TF0, TF0, TF3), (TF0, TF0, TF4), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF1, TF2), (TF0, TF1, TF3), (TF0, TF1, TF4), (TF1, TF0, TF0), (TF1, TF0, TF1), (TF1, TF0, TF2), (TF1, TF0, TF3), (TF1, TF0, TF4), (TF1, TF1, TF0), (TF1, TF1, TF1), (TF1, TF1, TF2), (TF1, TF1, TF3), (TF1, TF1, TF4), (TF2, TF0, TF0), (TF2, TF0, TF1), (TF2, TF0, TF2), (TF2, TF0, TF3), (TF2, TF0, TF4), (TF2, TF1, TF0), (TF2, TF1, TF1), (TF2, TF1, TF2), (TF2, TF1, TF3), (TF2, TF1, TF4) (alt. (TF0, TF0, TF0), (TF0, TF0, TF1), (TF0, TF0, TF2), (TF0, TF1, TF0), (TF0, TF1, TF1), (TF0, TF2, TF0), (TF0, TF2, TF1), (TF1, TF0, TF0))
NOTE:	Alt. TFCS applies when alts for 32 kbps RAB, SRB for PCCH, and SRBs for CCCH/ DCCH/ BCCH are all configured.

6.11.6.4.4.3.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 936 bits (alt. 472 bits)
	TFCI code word	16 bits
	Puncturing limit	0.52 (alt. 0.56)
NOTE:	Alt. applies when alts for 32 kbps RAB and SRBs for CCCH/ DCCH/ BCCH are both configured.	

6.11.6.4.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

6.11.6.4.4.3a.1 Transport channel parameters

6.11.6.4.4.3a.1.1 Transport channel parameters of SRB for PCCH

See clause 6.11.6.4.4.1.1.1.

6.11.6.4.4.3a.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See clause 6.11.6.4.4.2.1.2.

6.11.6.4.4.3a.1.3 TFCS

TFCS size	10 (alt.7)
TFCS	(SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4), (TF1, TF0), (TF1, TF1), (TF1, TF2), (TF1, TF3), (TF1, TF4) (alt. (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0), (TF1, TF1), (TF2, TF0), (TF2, TF1))
NOTE:	Alt. TFCS applies when alts for SRB for PCCH and SRBs for CCCH/ DCCH/ BCCH are both configured.

6.11.6.4.4.3a.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 5 codes x 1 time slot (alt. SF32 x 2 codes x 1 time slot)
	Max. Number of data bits/radio frame	1 204 bits (alt. 480 bits)
	TFCI code word	16 bits (alt. 8 bits)
	Puncturing limit	0.84 (alt. 0.84)
NOTE: Alt. applies when alt for SRBs for CCCH/ DCCH/ BCCH is configured.		

6.11.6.4.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH

6.11.6.4.4.4.1 Transport channel parameters

6.11.6.4.4.4.1.1 Transport channel parameters of RB for CTCH

Higher layer	RAB/signalling RB	N/A	
	User of Radio Bearer	BMC	
RLC	Logical channel type	CTCH	
	RLC mode	UM	
	Payload sizes, bit	152	
	Max data rate, bps	15 200	
	UMD PDU header, bit	8	
MAC	MAC header, bit	3	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	163	
	TFS	TF0, bits	0x163
		TF1, bits	1x163
		TF2, bits	2x163
	TTI, ms	20	
	Coding type	CC 1/3	
	CRC, bit	16	
	Max number of bits/TTI before rate matching	1 098	
	Max number of bits/radio frame before rate matching	549	
RM attribute	200 to 240		

6.11.6.4.4.4.1.2 Transport channel parameters of SRB for CCCH and SRB for BCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#5	
	User of Radio Bearer	RRC	RRC	
RLC	Logical channel type	CCCH	BCCH	
	RLC mode	UM	TM	
	Payload sizes, bit	160	168	
	Max data rate, bps	16 000	16 800	
	AMD/UMD/TrD PDU header, bit	8	0	
MAC	MAC header, bit	3	3	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	FACH		
	TB sizes, bit	171		
	TFS	TF0, bits	0x171	
		TF1, bits	1x171	
		TF2, bits	2x171	
	TTI, ms	20		
	Coding type	TC		
	CRC, bit	16		
	Max number of bits/TTI before rate matching	1 134		
	Max number of bits/radio frame before rate matching	567		
RM attribute	200 to 240			

6.11.6.4.4.4.1.3 TFCS

TFCS size	4
TFCS	(RB for CTCH, SRBs for CCCH/BCCH) = (TF0, TF0), (TF0, TF1), (TF0, TF2), (TF1, TF0), (TF1, TF1), (TF2, TF0)

6.11.6.4.4.2 Physical channel parameters

S-CCPCH	Midamble	1024 chips
	Codes and time slots	SF32 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	472 bits
	TFCI code word	16 bits
	Puncturing limit	0.80

6.11.6.4.4.5 64.8kbps RB for MTCH with 80 ms TTI

6.11.6.4.4.5.1 Transport channel parameters

6.11.6.4.4.5.1.1 Transport channel parameters for 64 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		64800
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
	TF8, bits	8x664	
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		16344
Max number of bits/radio frame before rate matching		2043	
RM attribute		160	

6.11.6.4.4.5.1.2 TFCS

TFCS size	9
TFCS	64 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8

6.11.6.4.4.5.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Max. Number of data bits/radio frame	1936 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

6.11.6.4.4.6 129.6kbps RB for MTCH with 80 ms TTI

6.11.6.4.4.6.1 Transport channel parameters

6.11.6.4.4.6.1.1 Transport channel parameters for 128 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		129600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		80
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI after channel coding		32679	
Max number of bits/radio frame before rate matching		4085	
RM attribute		160	

6.11.6.4.4.6.1.1 TFCS

TFCS size	17
TFCS	128 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.11.6.4.4.6.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF32 x 16 codes x 1 time slot
	Max. Number of data bits/radio frame	3888 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

6.11.6.4.4.7 259.2 kbps RB for MTCH with 40 ms TTI

6.11.6.4.4.7.1 Transport channel parameters

6.11.6.4.4.7.1.1 Transport channel parameters for 256 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		648
	Max data rate, bps		129600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		664
	TFS	TF0, bits	0x664
		TF1, bits	1x664
		TF2, bits	2x664
		TF3, bits	3x664
		TF4, bits	4x664
		TF5, bits	5x664
		TF6, bits	6x664
		TF7, bits	7x664
		TF8, bits	8x664
		TF9, bits	9x664
		TF10, bits	10x664
		TF11, bits	11x664
		TF12, bits	12x664
		TF13, bits	13x664
		TF14, bits	14x664
		TF15, bits	15x664
	TF16, bits	16x664	
	TTI, ms		40
Coding type		TC	
CRC, bit		16	
Max number of bits/TTI after channel coding		32679	
Max number of bits/radio frame before rate matching		8170	
RM attribute		160	

6.11.6.4.4.7.1.2 TFCS

TFCS size	17
TFCS	256 kbps RAB = TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12, TF13, TF14, TF15, TF16

6.11.6.4.4.7.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF1 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	7792 bits
	TFCI code word	16 bits
	Puncturing limit	0.92

6.11.6.4.4.8 7.6 kbps signalling RB for MCCH

6.11.6.4.4.8.1 Transport channel parameters

6.11.6.4.4.8.1.1 Transport channel parameters for 7.6 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		160
	TFS	TF0, bits	0x160
		TF1, bits	1x160
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI after channel coding		552
	Max number of bits/radio frame before rate matching		276
	RM attribute		160

6.11.6.4.4.8.1.2 TFCS

TFCS size	2
TFCS	MBMS SRB = TF0, TF1

6.11.6.4.4.8.2 Physical channel parameters

S-CCPCH	Midamble	512 chips
	Codes and time slots	SF32 x 1 codes x 1 time slot
	Max. Number of data bits/radio frame	228 bits
	TFCI code word	16 bits
	Puncturing limit	0.80

6.11.6.4.4.9 124.kbps RB for MBSFN MTCH with 80 ms TTI

6.11.6.4.4.9.1 Transport channel parameters

6.11.6.4.4.9.1.1 Transport channel parameters for 124 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		124400
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4993
	TFS	TF0, bits	0x4993
		TF1, bits	1x4993
		TF2, bits	2x4993
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		30078
	Max number of bits/radio frame before rate matching		3760
RM attribute		128	

6.11.6.4.4.9.1.2 TFCS

TFCS size	3
TFCS	124 kbps RAB =TF0, TF1, TF2

6.11.6.4.4.9.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF32 x 8 codes x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	2096 bits
	TFCI code word	(16,5)
	Puncturing limit	0.54

6.11.6.4.4.10 320.4kbps RB for MBSFN MTCH with 80 ms TTI

6.11.6.4.4.10.1 Transport channel parameters

6.11.6.4.4.10.1.1 Transport channel parameters for 320 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4272
	Max data rate, bps		320400
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4289
	TFS	TF0, bits	0x4289
		TF1, bits	1x4289
		TF2, bits	6x4289
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		77562
	Max number of bits/radio frame before rate matching		9696
RM attribute		128	

6.11.6.4.4.10.1.1 TFCS

TFCS size	3
TFCS	320 kbps RAB =TF0, TF1, TF2

6.11.6.4.4.10.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF32 x 16 codes x 1 time slot
	Modulation	16QAM
	Max. Number of data bits/radio frame	8432 bits
	TFCI code word	(16,5)
	Puncturing limit	0.86

6.11.6.4.4.11 497.6 kbps RB for MBSFN MTCH with 80 ms TTI

6.11.6.4.4.11.1 Transport channel parameters

6.11.6.4.4.11.1.1 Transport channel parameters for 496 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		497600
	UMD PDU header, bit		8
MAC	MAC header, bit		9
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4993
	TFS	TF0, bits	0x4993
		TF1, bits	1x4993
		TF2, bits	8x4993
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		120312
	Max number of bits/radio frame before rate matching		15039
RM attribute		128	

6.11.6.4.4.11.1.2 TFCS

TFCS size	3
TFCS	496 kbps RAB =TF0, TF1, TF2

6.11.6.4.4.11.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF1 x 1 codes x 2 time slots
	Modulation	QPSK
	Max. Number of data bits/radio frame	16880 bits
	TFCI code word	(16,5) in first slot only
	Puncturing limit	1

6.11.6.4.4.12 7.2 kbps signalling RB for MBSFN MCCH

6.11.6.4.4.12.1 Transport channel parameters

6.11.6.4.4.12.1.1 Transport channel parameters for 7.2 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		72
	Max data rate, bps		7200
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		80
	TFS	TF0, bits	0x80
		TF1, bits	1x80
		TF2, bits	2x80
		TF3, bits	4x80
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1164
	Max number of bits/radio frame before rate matching		291
RM attribute		128	

6.11.6.4.4.12.1.2 TFCS

TFCS size	4
TFCS	MBMS SRB = TF0, TF1, TF2, TF3

6.11.6.4.4.12.2 Physical channel parameters

S-CCPCH	Midamble	640 chips (burst type 4)
	Codes and time slots	SF32 x 1 code x 1 time slot
	Modulation	QPSK
	Max. Number of data bits/radio frame	248 bits
	TFCI code word	(16,5)
	Puncturing limit	0.84

6.11.6.4.5 Combinations on PRACH

6.11.6.4.5.1 SRB for CCCH + SRB for DCCH

6.11.6.4.5.1.1 Transport channel parameters

6.11.6.4.5.1.1.1 Transport channel parameter for SRB for CCCH, SRB for DCCH

Higher layer	RAB/signalling RB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	TM	UM	AM	AM	AM
	Payload sizes, bit	168	136	128	128	128
	Max data rate, bps	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	0	8	16	16	16
MAC	MAC header, bit	2	26	26	26	26
	MAC multiplexing	5 logical channel multiplexing				

Layer 1	TrCH type	RACH				
	TB sizes, bit	170				
	TFS	TF0, bits	1x170			
	TTL, ms	10				
	Coding type	CC 1/2				
	CRC, bit	16				
	Max number of bits/TTI after channel coding	388				
Max number of bits/Radio frame before rate matching	388					

6.11.6.4.5.1.1.2 TFCS

TFCS size	1
TFCS	SRBs for CCCH/ DCCH = (TF0)

6.11.6.4.5.1.2 Physical channel parameters

PRACH	Midamble	1024 chips
	Codes and time slots	SF16 (alt. SF32) x 1 code x 1 time slot
	Max. Number of data bits/radio frame	488 bits (alt. 244 bits)
	Puncturing Limit	1.0 (alt. 0.60)

6.11.6.4.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

6.11.6.4.5.2.1 Transport channel parameters

Higher layer	RAB/signalling RB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High priority	NAS_DT Low priority
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	168	136	128	128	128
	Max data rate, bps	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	0	8	16	16	16
MAC	MAC header, bit	26	2	26	26	26	26
	MAC multiplexing	6 logical channel multiplexing					
Layer 1	TrCH type	RACH					
	TB sizes, bit	170					
	TFS	TF0, bits	1x170				
	TTL, ms	10					
	Coding type	CC 1/2					
	CRC, bit	16					
	Max number of bits/TTI after channel coding	388					
Max number of bits/ Radio frame before rate matching	388						

6.11.6.4.5.2.2 Physical channel parameters

See clause 6.11.6.4.5.1.2.

6.11.6.4.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

6.11.6.4.5.3.1 Transport channel parameters

Higher layer	RAB/signalling RB	RAB	RAB	SRB#0	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	Interactive/ Background RAB	Interactive/ Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio

RLC	Logical channel type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH
	RLC mode	AM	AM	TM	UM	AM	AM	AM
	Payload sizes, bit	128	128	168	136	128	128	128
	Max data rate, bps	12 800	12 800	16 800	13 600	12 800	12 800	12 800
	AMD/UMD/TrD PDU header, bit	16	16	0	8	16	16	16
MAC	MAC header, bit	26	26	2	26	26	26	26
	MAC multiplexing	7 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	170						
	TFS	TF0, bits						
		1x170						
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
	Max number of bits/TTI after channel coding	388						
	Max number of bits/ Radio frame before rate matching	388						

6.11.6.4.5.3.2 Physical channel parameters

See clause 6.11.6.4.5.1.2.

6.11.6.4.6 Combinations on DPCH and HS-PDSCH

6.11.6.4.6.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.1.1 Uplink

See clause 6.11.6.4.1.26.1.

6.11.6.4.6.1.2 Downlink

6.11.6.4.6.1.2.1 Transport channel parameters

6.11.6.4.6.1.2.1.1 Transport channel parameters for HS-DSCH

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

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	depends on UE category NOTE1
	AMD PDU header, bit	16
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	10 ms
	Coding type	TC
	CRC, bit	24
NOTE:	The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).	

6.11.6.4.6.1.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.2.2.1.1

6.11.6.4.6.1.2.1.2.2 TFCS

See clause 6.11.6.4.1.2.2.1.2.

6.11.6.4.6.1.2.2 Physical channel parameters

6.11.6.4.6.1.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.2.2.2.

6.10.3.4.6.1.2.2.2 Physical channel parameters on HS-PDSCH

Physical parameters common for all UE physical layer categories

HS-PDSCH	Midamble	1024 chips
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UE HS-DSCH Physical Layer category 1:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	2
	Max Data Rate	1.2 Mbps

UE HS-DSCH Physical Layer category 2:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	1.2 Mbps

UE HS-DSCH Physical Layer category 3:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	4
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 4:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	2.4 Mbps

UE HS-DSCH Physical Layer category 5:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	6
	Max Data Rate	3.6 Mbps

UE HS-DSCH Physical Layer category 6:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	3.6 Mbps

UE HS-DSCH Physical Layer category 7:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	5.3 Mbps

UE HS-DSCH Physical Layer category 8:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	7.3 Mbps

UE HS-DSCH Physical Layer category 9:

HS-PDSCH	Number of processes	3
	Process memory size	Split equally among all processes
	Maximum number of HS-DSCH timeslots per TTI	12
	Max Data Rate	10.2 Mbps

6.11.6.4.6.2 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.2.1 Uplink

See clause 6.11.6.4.1.28.1.

6.11.6.4.6.2.2 Downlink

6.11.6.4.6.2.2.1 Transport channel parameters

6.11.6.4.6.2.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.2.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.2.2.1.2.2 TFCS

See clause 6.11.6.4.1.2.2.1.2.

- 6.11.6.4.6.2.2.2 Physical channel parameters
- 6.11.6.4.6.2.2.2.1 Physical channel parameters on DPCH
- See clause 6.11.6.4.1.2.2.2.
- 6.11.6.4.6.2.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.11.6.4.6.1.2.2.2.
- 6.11.6.4.6.3 Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.6.3.1 Uplink
- See clause 6.11.6.4.1.34.1.
- 6.11.6.4.6.3.2 Downlink
- 6.11.6.4.6.3.2.1 Transport channel parameters
- 6.11.6.4.6.3.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.6.4.6.3.2.1.1.1 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.6.4.6.1.2.1.1.1.
- 6.11.6.4.6.3.2.1.2 Transport channel parameters for DCH
- 6.11.6.4.6.3.2.1.2.1 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.11.6.4.1.2.2.1.1.
- 6.11.6.4.6.3.2.1.2.2 TFCS
- See clause 6.11.6.4.1.2.2.1.2.
- 6.11.6.4.6.3.2.2 Physical channel parameters
- 6.11.6.4.6.3.2.2.1 Physical channel parameters on DPCH
- See clause 6.11.6.4.1.2.2.2.
- 6.11.6.4.6.3.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.11.6.4.6.1.2.2.2.
- 6.11.6.4.6.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.6.4.1 Uplink
- 6.11.6.4.6.4.1.1 Transport channel parameters
- 6.11.6.4.6.4.1.1.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB
- See clause 6.11.6.4.1.4.1.1.1.
- 6.11.6.4.6.4.1.1.2 Transport channel parameters for Interactive or background / UL:384 kbps / PS RAB
- See clause 6.11.6.4.1.34.1.1.1.
- 6.11.6.4.6.4.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.6.4.1.1.4 TFCS

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

6.11.6.4.6.4.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 3 time slots
	Max. Number of data bits/radio frame	6 480 bits
	TFCI code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.48

6.11.6.4.6.4.2 Downlink

6.11.6.4.6.4.2.1 Transport channel parameters

6.11.6.4.6.4.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.4.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.4.2.1.2.3 TFCS

See clause 6.11.6.4.1.4.2.1.3.

6.11.6.4.6.4.2.2 Physical channel parameters

6.11.6.4.6.4.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.6.4.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

6.11.6.4.6.5 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.5.1 Uplink

See clause 6.11.6.4.1.40.1.

6.11.6.4.6.5.2 Downlink

6.11.6.4.6.5.2.1 Transport channel parameters

6.11.6.4.6.5.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.5.2.1.2 Transport channel parameters for DCH

6.11.6.4.6.5.2.1.2.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB

See clause 6.11.6.4.1.4.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.5.2.1.2.3 TFCS

See clause 6.11.6.4.1.4.2.1.3.

6.11.6.4.6.5.2.2 Physical channel parameters

6.11.6.4.6.5.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.6.5.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

6.11.6.4.6.6 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.6.1 Uplink

6.11.6.4.6.6.1.1 Transport channel parameters

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

See clause 6.11.6.4.1.13.1.1.1.

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

See clause 6.11.6.4.1.34.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.6.6.1.1.4 TFCS

TFCS size	24 (alt. 36)
TFCS	(64 kbps RAB, 384 kbps RAB , DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1) (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF5, TF0), (TF1, TF5, TF0), (TF0, TF6, TF0), (TF1, TF6, TF0), (TF0, TF7, TF0), (TF1, TF7, TF0), (TF0, TF8, TF0), (TF1, TF8, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF0, TF5, TF1), (TF1, TF5, TF1), (TF0, TF6, TF1), (TF1, TF6, TF1), (TF0, TF7, TF1), (TF1, TF7, TF1), (TF0, TF8, TF1), (TF1, TF8, TF1))

6.11.6.4.6.6.1.2 Physical channel parameters

DPCH Uplink	Midamble	512 chips
	Codes and time slots	SF4 x 1 code x 3 time slots
	Max. Number of data bits/radio frame	6 480 bits
	TFCS code word	16 bits
	TPC	2 bits
	Puncturing Limit	0.40

6.11.6.4.6.6.1 Downlink

6.11.6.4.6.6.2.1 Transport channel parameters

6.11.6.4.6.6.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.6.2.1.1 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.6.2.1.2.3 TFCS

See clause 6.11.6.4.1.13.2.1.3.

6.11.6.4.6.6.2.2 Physical channel parameters

6.11.6.4.6.6.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.6.6.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

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

6.11.6.4.6.7.1 Uplink

See clause 6.11.6.4.1.57.1.

6.11.6.4.6.7.2 Downlink

6.11.6.4.6.7.2.1 Transport channel parameters

6.11.6.4.6.7.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.7.2.1.1 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.13.2.1.1.

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.7.2.1.2.3 TFCS

See clause 6.11.6.4.1.13.2.1.3.

6.11.6.4.6.7.2.2 Physical channel parameters

6.11.6.4.6.7.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.4.2.2.

6.11.6.4.6.7.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

6.11.6.4.6.8 Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.8.1 Uplink

6.11.6.4.6.8.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB	RAB	RAB
RLC	Logical channel type	DTCH	DTCH
	RLC mode	AM	AM
	Payload sizes, bit	320	320

	Max data rate, bps	384 000	384 000	
	AMD PDU header, bit	16	16	
MAC	MAC header, bit	4	4	
	MAC multiplexing	2 logical channel multiplexing		
Layer 1	TrCH type	DCH		
	TB sizes, bit	340		
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
		TF5, bits	12x340	
		TTI, ms	10	
		Coding type	TC	
	CRC, bit	16		
	Max number of bits/TTI after channel coding	12 828		
	Uplink: Max number of bits/radio frame before rate matching	12 828		
	RM attribute	110-180		

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.6.8.1.1.3 TFCS

TFCS size	12
TFCS	(384 kbps RAB + 384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

6.11.6.4.6.8.1.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF4 x 1 codes x 3 time slot
	Max. Number of data bits/radio frame	6480 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

6.11.6.4.6.8.2 Downlink

6.11.6.4.6.8.2.1 Transport channel parameters

6.11.6.4.6.8.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.8.2.1.2 Transport channel parameters for DCH

6.11.6.4.6.8.2.1.2.1 Transport channel parameters for UL:3.4 DL: 3.4 kbps SRBs for DCCH

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.8.2.1.2.2 TFCS

See clause 6.11.6.4.1.2.2.1.2.

6.11.6.4.6.8.2.2 Physical channel parameters

6.11.6.4.6.8.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.2.2.2.

6.11.6.4.6.8.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

6.11.6.4.6.9 Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.9.1 Uplink

See clause 6.11.6.4.1.57.1.

6.11.6.4.6.9.2 Downlink

6.11.6.4.6.9.2.1 Transport channel parameters

6.11.6.4.6.9.2.1.1 Transport channel parameters for HS-DSCH

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

See clause 6.11.6.4.6.1.2.1.1.1.

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

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.6.9.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.2.2.1.1.

6.11.6.4.6.9.2.1.2.2 TFCS

See clause 6.11.6.4.1.2.2.1.2.

6.11.6.4.6.9.2.2 Physical channel parameters

6.11.6.4.6.9.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.2.2.2.

6.11.6.4.6.9.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

6.11.6.4.6.10 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.11.6.4.6.10.1 Uplink

6.11.6.4.6.10.1.1 Transport channel parameters

6.11.6.4.6.10.1.1.1 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	128000	
	AMPDU header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	8076	
	Uplink: Max number of bits/radio frame before rate matching	4038	
	RM attribute	125-165	

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

See clause 6.11.6.4.1.28.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.6.10.1.1.3 TFCS

TFCS size	40
TFCS	(128 kbps RAB, 128 kbps RAB, DCCH)= (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1)

6.11.6.4.6.10.1.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF4 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	4272 bits
	TFCI code word	16 bits
	Puncturing limit	0.48

- 6.11.6.4.6.10.2 Downlink
- 6.11.6.4.6.10.2.1 Transport channel parameters
- 6.11.6.4.6.10.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.6.4.6.10.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB

Higher Layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	640
	Max data rate, bps	depends on UE category NOTE1
	AMD PDU header, bit	16
MAC	MAC-d header, bit	0
	MAC multiplexing	N/A
	MAC-d PDU size, bit	656
	MAC-hs header fixed part, bit	21
Layer 1	TrCH type	HS-DSCH
	TTI	10 ms
	Coding type	TC
	CRC, bit	24
NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see [25.321]).		

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

See clause 6.11.6.4.6.1.2.1.1.1.

- 6.11.6.4.6.10.2.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.2.2.1.1.

- 6.11.6.4.6.10.2.1.2.2 TFCS

See clause 6.11.6.4.1.2.2.1.2.

- 6.11.6.4.6.10.2.2 Physical channel parameters

- 6.11.6.4.6.10.2.2.1 Physical channel parameters on DPCH

See clause 6.11.6.4.1.2.2.2.

- 6.11.6.4.6.10.2.2.2 Physical channel parameters on HS-PDSCH

See clause 6.11.6.4.6.1.2.2.2.

- 6.11.6.4.6.11 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

- 6.11.6.4.6.11.1 Uplink

- 6.11.6.4.6.11.1.1 Transport channel parameters

- 6.11.6.4.6.11.1.1.1 Transport channel parameters for Conversational / Speech / UL12.2kbps / CS RAB

See clause 6.11.6.4.1.4.1.1.1.

6.11.6.4.6.11.1.1.2 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

See clause 6.11.6.4.6.10.1.1.1.

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

See clause 6.11.6.4.1.28.1.1.1.

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.6.11.1.1.5 TFCS

TFCS size	120
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 128 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF1,TF2,TF0), (TF1,TF0,TF0,TF1,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF2,TF0), (TF1,TF0,TF0,TF2,TF2,TF0), (TF2,TF1,TF1,TF2,TF2,TF0), (TF0,TF0,TF0,TF3,TF2,TF0), (TF1,TF0,TF0,TF3,TF2,TF0), (TF2,TF1,TF1,TF3,TF2,TF0), (TF0,TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF0,TF3,TF0), (TF2,TF1,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF1,TF3,TF0), (TF1,TF0,TF0,TF1,TF3,TF0), (TF2,TF1,TF1,TF1,TF3,TF0), (TF0,TF0,TF0,TF2,TF3,TF0), (TF1,TF0,TF0,TF2,TF3,TF0), (TF2,TF1,TF1,TF2,TF3,TF0), (TF0,TF0,TF0,TF3,TF3,TF0), (TF1,TF0,TF0,TF3,TF3,TF0), (TF2,TF1,TF1,TF1,TF3,TF3,TF0), (TF0,TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF0,TF4,TF0), (TF2,TF1,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF1,TF4,TF0), (TF1,TF0,TF0,TF1,TF4,TF0), (TF2,TF1,TF1,TF1,TF4,TF0), (TF0,TF0,TF0,TF2,TF4,TF0), (TF1,TF0,TF0,TF2,TF4,TF0), (TF2,TF1,TF1,TF2,TF4,TF0), (TF0,TF0,TF0,TF3,TF4,TF0), (TF1,TF0,TF0,TF3,TF4,TF0), (TF2,TF1,TF1,TF3,TF4,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1), (TF0,TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF1,TF2,TF1), (TF1,TF0,TF0,TF1,TF2,TF1), (TF2,TF1,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF2,TF2,TF1), (TF1,TF0,TF0,TF2,TF2,TF1), (TF2,TF1,TF1,TF2,TF2,TF1), (TF0,TF0,TF0,TF3,TF2,TF1), (TF1,TF0,TF0,TF3,TF2,TF1), (TF2,TF1,TF1,TF3,TF2,TF1), (TF0,TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF0,TF3,TF1), (TF2,TF1,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF1,TF3,TF1), (TF1,TF0,TF0,TF1,TF3,TF1), (TF2,TF1,TF1,TF1,TF3,TF1), (TF0,TF0,TF0,TF2,TF3,TF1), (TF1,TF0,TF0,TF2,TF3,TF1), (TF2,TF1,TF1,TF2,TF3,TF1), (TF0,TF0,TF0,TF3,TF3,TF1), (TF1,TF0,TF0,TF3,TF3,TF1), (TF2,TF1,TF1,TF3,TF3,TF1), (TF0,TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF0,TF4,TF1), (TF2,TF1,TF1,TF0,TF4,TF1), (TF0,TF0,TF0,TF1,TF4,TF1), (TF1,TF0,TF0,TF1,TF4,TF1), (TF2,TF1,TF1,TF1,TF4,TF1), (TF0,TF0,TF0,TF2,TF4,TF1), (TF1,TF0,TF0,TF2,TF4,TF1), (TF2,TF1,TF1,TF2,TF4,TF1), (TF0,TF0,TF0,TF3,TF4,TF1), (TF1,TF0,TF0,TF3,TF4,TF1), (TF2,TF1,TF1,TF3,TF4,TF1)

6.11.6.4.6.11.1.2 Physical channel parameters

DPCH Downlink	Midamble	1024 chips
	Codes and time slots	SF4 x 2 codes x 1 time slot
	Max. Number of data bits/radio frame	4272 bits
	TFCI code word	16 bits
	Puncturing limit	0.44

- 6.11.6.4.6.11.2 Downlink
- 6.11.6.4.6.11.2.1 Transport channel parameters
- 6.11.6.4.6.11.2.1.1 Transport channel parameters for HS-DSCH
- 6.11.6.4.6.11.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB
- See clause 6.11.6.4.6.10.2.1.1.1.
- 6.11.6.4.6.11.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category] / PS RAB
- See clause 6.11.6.4.6.1.2.1.1.1.
- 6.11.6.4.6.11.2.1.2 Transport channel parameters for DCH
- 6.11.6.4.6.11.2.1.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB
- See clause 6.11.6.4.1.4.2.1.1.
- 6.11.6.4.6.11.2.1.2.2 Transport channel parameters for DL: 3.4 kbps SRBs for DCCH
- See clause 6.11.6.4.1.2.2.1.1.
- 6.11.6.4.6.11.2.1.2.3 TFCS
- See clause 6.11.6.4.1.4.2.1.3.
- 6.11.6.4.6.11.2.2 Physical channel parameters
- 6.11.6.4.6.11.2.2.1 Physical channel parameters on DPCH
- See clause 6.11.6.4.1.4.2.2.
- 6.11.6.4.6.11.2.2.2 Physical channel parameters on HS-PDSCH
- See clause 6.11.6.4.6.1.2.2.2.
- 6.11.6.4.7 Combinations on HS-PDSCH and E-PUCH
- 6.11.6.4.7.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH
- 6.11.6.4.7.1.1 Uplink
- 6.11.6.4.7.1.1.1 Transport channel parameters
- 6.11.6.4.7.1.1.1.1 Transport channel parameters for E-DCH

6.11.6.4.7.1.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	Depends on UE category and TTI
	AMD PDU header, bit	16
MAC	MAC multiplexing	N/A
	MAC-d PDU size, bit	336
	MAC-e/es header fixed part, bit	18
Layer 1	TrCH type	E-DCH
	TTI	10ms
	Coding type	TC
	CRC, bit	24

6.11.6.4.7.1.1.1.2 Transport channel parameters for DCH

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

See clause 6.11.6.4.1.2.1.1.1.

6.11.6.4.7.1.1.2 Physical channel parameters

6.11.6.4.7.1.1.2.1 Physical channel parameters on E-PUCH

Note that each alternative configuration in physical channel parameters is stand-alone and can be associated with any of the RAB alternatives in the transport channel parameters.

UE E-DCH Physical Layer category 1:

E-PUCH	Number of processes	4
	Max Data Rate	1.7360Mbps

UE E-DCH Physical Layer category 2:

E-PUCH	Number of processes	4
	Max Data Rate	3.4752Mbps

UE E-DCH Physical Layer category 3:

E-PUCH	Number of processes	4
	Max Data Rate	5.2416Mbps

UE E-DCH Physical Layer category 4:

E-PUCH	Number of processes	4
	Max Data Rate	6.9536Mbps

UE E-DCH Physical Layer category 5:

E-PUCH	Number of processes	4
	Max Data Rate	8.7200Mbps

UE E-DCH Physical Layer category 6:

E-PUCH	Number of processes	4
	Max Data Rate	13.9104Mbps

UE E-DCH Physical Layer category 7:

E-PUCH	Number of processes	4
	Max Data Rate	20.9760Mbps

6.11.6.4.7.1.1.2.2 Physical channel parameters for DPCH

See clause 6.11.6.4.1.2.1.2

6.11.6.4.7.1.2 Downlink

See clause 6.11.6.4.6.1.2.

6.11.6.4.7.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

6.11.6.4.7.3.1 Uplink

See clause 6.11.6.4.7.1.1.

6.11.6.4.7.3.1.2 Physical channel parameters

6.11.6.4.7.3.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.6.4.7.1.1.2.1.

6.11.6.4.7.3.2 Downlink

6.11.6.4.7.3.2.1 Transport channel parameters

6.11.6.4.7.3.2.1.1 Transport channel parameters for HS-DSCH

6.11.6.4.7.3.2.1.1.1 MAC-d flow#1 parameters for Streaming or interactive or background / DL: [max bit rate depending on UE category] / PS RAB

See clause 6.11.6.4.6.1.2.1.1.1.

6.11.6.4.7.3.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

Higher layer	RAB/Signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	Depends on UE category (NOTE)			
	AMD PDU header, bit	8	16	16	16
MAC	MAC-d header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
	MAC-d PDU size, bit	148			
	MAC-hs header fixed part, bit	21			
Layer 1	TrCH type	HS-DSCH			
	TTI	10 ms			
	Coding type	TC			
	CRC, bit	24			
NOTE: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]).					

6.11.6.4.7.3.2.2 Physical channel parameters

6.11.6.4.7.3.2.2.1 Physical channel parameters on HS-PDSCH.

See clause 6.11.6.4.6.1.2.2.2.

- 6.11.6.4.7.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.11.6.4.7.4.1 Uplink
- 6.11.6.4.7.4.1.1 Transport channel parameters
- 6.11.6.4.7.4.1.1.1 Transport channel parameters for E-DCH
- 6.11.6.4.7.4.1.1.1.1 MAC-d flow parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.6.4.7.1.1.1.1.1.
- 6.11.6.4.7.4.1.1.2 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB
- See clause 6.11.6.4.1.4.1.1.1.
- 6.11.6.4.7.4.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See clause 6.11.6.4.1.2.1.1.1.
- 6.11.6.4.7.4.1.1.4 TFCS
- See clause 6.11.6.4.1.4.1.1.3.
- 6.11.6.4.7.4.1.2 Physical channel parameters
- 6.11.6.4.7.4.1.2.1 Physical channel parameters on E-PUCH
- See clause 6.11.6.4.7.1.1.2.1.
- 6.11.6.4.7.4.1.2.2 Physical channel parameters on DCH
- See clause 6.11.6.4.1.4.1.2.
- 6.11.6.4.7.4.2 Downlink
- See clause 6.11.6.4.6.3.2.
- 6.11.6.4.7.5 Streaming or interactive or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH
- 6.11.6.4.7.5.1 Uplink
- 6.11.6.4.7.5.1.1 Transport channel parameters
- 6.11.6.4.7.5.1.1.1 Transport channel parameters for E-DCH
- MAC-e multiplexing between all MAC-d flows in the same MAC-e PDU shall be configured.
- 6.11.6.4.7.5.1.1.1.1 MAC-d flow #1 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.6.4.7.1.1.1.1.1.
- 6.11.6.4.7.5.1.1.1.2 MAC-d flow #2 parameters for Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] / PS RAB
- See clause 6.11.6.4.7.1.1.1.1.1.
- 6.11.6.4.7.5.1.1.1.3 MAC-d flow #3 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.11.6.4.7.2.1.1.1.2.

6.11.6.4.7.5.1.2 Physical channel parameters

6.11.6.4.7.5.1.2.1 Physical channel parameters on E-PUCH

See clause 6.11.6.4.7.1.1.2.1.

6.11.6.4.7.5.2 Downlink

See clause 6.11.6.4.6.3.2.

6.11.7 Reference Radio Bearer configurations used in Radio Bearer testing for 3.84 Mcps TDD IMB

6.11.7.1 Combinations of RABs and Signalling RBs

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

Combinations on SCCPCH

- 1) 7.6 kbps signalling RB for MBSFN MCCH with 40ms TTI

Combinations on SCCPCH Type 2

- 1) 124.4kbps RB for MBSFN MTCH with 80 ms TTI
- 2) 320.4kbps RB for MBSFN MTCH with 80 ms TTI
- 3) 497.6kbps RB for MBSFN MTCH with 80 ms TTI

6.11.7.2 Typical radio parameter sets

6.11.7.2.1 Combination on SCCPCH

6.11.7.2.1.1 7.6 kbps signalling RB for MBSFN MCCH with 40ms TTI

6.11.7.2.1.1.1 Transport channel parameters

6.11.7.2.1.1.1.1 Transport channel parameters for 7.6 kbps signalling RB for MCCH

Higher layer	RAB/signalling RB		SRB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MCCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		-
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		80
	TFS	TF0, bits	0x160
		TF1, bits	1x160
		TF2, bits	2x160
	TTI, ms		40
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI after channel coding		1080
	Max number of bits/radio frame before rate matching		270
RM attribute		128	

6.11.7.2.1.1.2 TFCS

TFCS size	3
TFCS	MBMS SRB =TF0, TF1, TF2

6.11.7.2.1.1.2 Physical channel parameters

S-CCPCH	DTX position	Flexible
	Spreading factor	256
	Number of codes	1
	Number of data bits/slot	16
	Number of data bits/frame	240
	Modulation	QPSK
	Slot Format #	Format 1

6.11.7.2.2 Combinations on SCCPCH Type 2

6.11.7.2.2.1 124.4kbps RB for MBSFN MTCH with 80 ms TTI

6.11.7.2.2.1.1 Transport channel parameters

6.11.7.2.2.1.1.1 Transport channel parameters for 124.4 kbps PS RAB

Higher layer	RAB/signalling RB	RAB	
	User of Radio Bearer	MBMS	
RLC	Logical channel type	MTCH	
	RLC mode	UM	
	Payload sizes, bit	4976	
	Max data rate, bps	124400	
	UMD PDU header, bit	8	
MAC	MAC header, bit	8	
	MAC multiplexing	N/A	
Layer 1	TrCH type	FACH	
	TB sizes, bit	4992	
	TFS	TF0, bits	0x4992
		TF1, bits	1x4992
		TF2, bits	2x4992
	TTI, ms	80	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	30072	
	Max number of bits/radio frame before rate matching	3759	
RM attribute	128		

6.11.7.2.2.1.1.2 TFCS

TFCS size	3
TFCS	124 kbps RAB =TF0, TF1, TF2

6.11.7.2.2.1.2 Physical channel parameters

S-CCPCH Type 2	DTX position	Flexible
	Spreading factor	16
	Number of codes	4
	Number of data bits/slot	1136
	Number of data bits/frame	3408
	Modulation	QPSK
	Slot Format #	Format 2 and 3

6.11.7.2.2.2 320.4kbps RB for MBSFN MTCH with 80 ms TTI

6.11.7.2.2.2.1 Transport channel parameters

6.11.7.2.2.2.1.1 Transport channel parameters for 320.4 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4272
	Max data rate, bps		320400
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4288
	TFS	TF0, bits	0x4288
		TF1, bits	1x4288
		TF2, bits	2x4288
		TF3, bits	3x4288
		TF4, bits	4x4288
		TF5, bits	5x4288
		TF6, bits	6x4288
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		77544
	Max number of bits/radio frame before rate matching		9693
RM attribute		128	

6.11.7.2.2.2.1.2 TFCS

TFCS size	7
TFCS	320 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6

6.11.7.2.2.2.2 Physical channel parameters

S-CCPCH Type 2	DTX position	Flexible
	Spreading factor	16
	Number of codes	4
	Number of data bits/slot	2288
	Number of data bits/frame	6864
	Modulation	16QAM
	Slot Format #	Format 4 and 5

6.11.7.2.2.3 497.6kbps RB for MBSFN MTCH with 80 ms TTI

6.11.7.2.2.3.1 Transport channel parameters

6.11.7.2.2.3.1.1 Transport channel parameters for 497.6 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		MBMS
RLC	Logical channel type		MTCH
	RLC mode		UM
	Payload sizes, bit		4976
	Max data rate, bps		497600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		4992
	TFS	TF0, bits	0x4992
		TF1, bits	1x4992
		TF2, bits	2x4992
		TF3, bits	3x4992
		TF4, bits	4x4992
		TF5, bits	5x4992
		TF6, bits	6x4992
		TF7, bits	7x4992
	TF8, bits	8x4992	
	TTI, ms		80
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		120288
Max number of bits/radio frame before rate matching		15036	
RM attribute		128	

6.11.7.2.2.3.1.2 TFCS

TFCS size	9
TFCS	496 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8

6.11.7.2.2.3.2 Physical channel parameters

S-CCPCH Type 2	DTX position	Flexible
	Spreading factor	16
	Number of codes	5
	Number of data bits/slot	2864
	Number of data bits/frame	8592
	Modulation	16QAM
	Slot Format #	Format 4 and 5