TSG-RAN Meeting #21 ***RP-030489***
Frankfurt, Germany, 16-19 September 2003

Title: **CRs (version 6.2.0 affecting the R'99) to TR 25.993**

Source: **TSG-RAN WG2**

Agenda item: **7.3.3**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.993	011	-	R99	Corrections on required capabilities for 32kbps UE class	F	6.2.0	6.3.0	R2-031847	TEI
25.993	013	-	R99	Addition of Streaming RABs	F	6.2.0	6.3.0	R2-031954	TEI

3GPP TSG-RAN2 Meeting #37 ***R2-031847***
Budapest, Hungary, August 25 - 29, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.993** **CR** **011** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Corrections on required capabilities for 32kbps UE class
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25/08/2003
Category:	⌘	**F**
Release:	⌘	Rel-99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

At the last meeting, Ran2#36, the UE capabilities for 32kbps UE class in 25.306 for DL have been enhanced, section 5.2. The "Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant" and "Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant" was set to 1280 bits, and support for turbo decoding was introduced.

The description of the RABs in 25.993 still does not reflect these changes. Therefore the capabilities that are needed for the RABs have to be updated.

Furthermore some editorial errors were found.

Summary of change: ⌘

All changes are done in chapters 7, 8 and 9.

Changes to the UE capabilities:

The following UE capabilities regarding the 32kbps UE class in DL are changed:

- Support of turbo decoding is deleted since the 32kbps class in DL already supports turbo decoding.
- Support of "Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant" = 1280 bits is deleted since the 32kbps class in DL already supports 1280 bits.
- Support of "Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant" = 1280 bits is deleted since the 32kbps class in DL already supports 1280 bits.

Editorial changes:

Various typos are corrected and missing words are added.

Consequences if not approved:	⌘	The description of the UE capabilities for 32kbps class necessary to support the RABs is confusing since these capabilities are not aligned with the latest version of 25.306.

Clauses affected:	⌘	7, 8, 9			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7 Examples of Radio Bearers and Signalling Radio Bearers for FDD

7.1 Combinations on DPCH

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

See subclause 6.10.2.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 32kbps with support of DL SF = 512.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.2 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.3 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.4 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.4a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.5 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.5a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.6 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.7 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.7a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.8 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.9 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.10 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.11 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.12 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.13 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.14 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.15 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.16 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.17 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.18 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 64 kbps plus support for 'Maximum total number of transport blocks received within TTIs that end at the same time' = 16.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.19 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps ~~with support of turbo decoding~~. For the alternative UL configuration, the minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23b of [1]

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23c of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.23d of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.24 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32kbps ~~plus support for turbo decoding~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.25 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.26 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.27 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.28 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.29 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.30 of [1].

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

This is supported in Release '99.

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

7.1.35.1 On DPCH

See subclause 6.10.2.4.1.31 of [1].

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

This is supported in Release '99.

7.1.35.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.1 of [1].

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

This is supported in Release '99.

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

7.1.36.1 On DPCH

See subclause 6.10.2.4.1.32 of [1].

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

This is supported in Release '99.

7.1.36.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.2 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.33 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.34 of [1].

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

This is supported in Release '99.

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

7.1.39.1 On DPCH

See subclause 6.10.2.4.1.35 of [1].

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

This is supported in Release '99.

7.1.39.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.3 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.36 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 2048 kbps plus support for 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative) and 'Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant' = 40960 (81920 for the TTI=20ms alternative).

This is supported in Release '99.

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

See subclause 6.10.2.4.1.37 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps~~ plus support for turbo decoding~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32 kbps ~~plus support for turbo decoding~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38c of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38d of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38e of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32 kbps ~~plus support of turbo decoding~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38g of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38h of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38i of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38j of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.39 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.40 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.41 of [1].

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

This is supported in Release '99.

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

7.1.56.1 On DPCH

See subclause 6.10.2.4.1.42 of [1].

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

This is supported in Release '99.

7.1.56.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.4 of [1].

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

This is supported in Release '99.

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

7.1.57.1 On DPCH

See subclause 6.10.2.4.1.43 of [1].

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

This is supported in Release '99.

7.1.57.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.5 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.2.6 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.44 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.45 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.46 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.49 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.49a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.50 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.51 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.51a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.51b of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.52 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.53 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.54 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.56 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.57 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.58 of [1].

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

This is supported in Release '99.

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

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

This is supported in Release '99.

7.1.74.1 Uplink

7.1.74.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.58.1.1.1 of [1]

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

See subclause 6.10.2.4.1.38b.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.74.1.1.4 TFCS

See subclause 6.10.2.4.1.58.1.1.4 of [1].

7.1.74.1.2 Physical channel parameters

See subclause 6.10.2.4.1.58.1.2 of [1].

7.1.74.2 Downlink

7.1.74.2.1 Transport channel parameters

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

Higher Layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		128000
	AM PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

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

See subclause 6.10.2.4.1.38b.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.74.2.1.4 TFCS

TFCS size	16
TFCS	(128 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)

7.1.74.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

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

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

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

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

This is supported in Release '99.

7.1.75.1 Uplink

7.1.75.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.75.1.1.4 TFCS

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

7.1.75.1.2 Physical channel parameters

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

7.1.75.2 Downlink

7.1.75.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.75.2.1.4 TFCS

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

7.1.75.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.76.1 Uplink

7.1.76.1.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.76.1.1.4 TFCS

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

7.1.76.1.2 Physical channel parameters

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

7.1.76.2 Downlink

7.1.76.2.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.76.2.1.4 TFCS

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

7.1.76.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.77.1 Uplink

7.1.77.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.77.1.1.4 TFCS

TFCS size	12
TFCS	(16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.77.1.2 Physical channel parameters

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

7.1.77.2 Downlink

7.1.77.2.1 Transport channel parameters

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

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

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.77.2.1.4 TFCS

TFCS size	12
TFCS	(16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.77.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.78.1 Uplink

7.1.78.1.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.78.1.1.4 TFCS

TFCS size	12
TFCS	(16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.78.1.2 Physical channel parameters

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

7.1.78.2 Downlink

7.1.78.2.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.78.2.1.4 TFCS

TFCS size	12
TFCS	(16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)

7.1.78.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.79.1 Uplink

7.1.79.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

7.1.79.1.1.2 Transport channel parameters for Interactive or Background / UL:0 + UL:0 kbps / PS RAB

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.79.1.1.4 TFCS

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

7.1.79.1.2 Physical channel parameters

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

7.1.79.2 Downlink

7.1.79.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

7.1.79.2.1.2 Transport channel parameters for Interactive or Background / DL:0 + DL:0 kbps / PS RAB

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.79.2.1.4 TFCS

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

7.1.79.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.80.1 Uplink

7.1.80.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.1.1.1 of [1].

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

See subclause 6.10.2.4.1.56.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.80.1.1.4 TFCS

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

7.1.80.1.2 Physical channel parameters

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

7.1.80.2 Downlink

7.1.80.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 6.10.2.4.1.56.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.80.2.1.4 TFCS

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

7.1.80.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

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

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

This is supported in Release '99.

7.1.81.1 Uplink

7.1.81.1.1 Transport channel parameters

7.1.81.1.1.1 Transport channel parameters for Streaming / unknown / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		8000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1068
	Uplink: Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.81.1.1.4 TFCS

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

7.1.81.1.2 Physical channel parameters

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

7.1.81.2 Downlink

7.1.81.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		16000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2028
	RM attribute		125-165

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.81.2.1.4 TFCS

TFCS size	8
TFCS	(16 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)

7.1.81.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.82.1 Uplink

7.1.82.1.1 Transport channel parameters

7.1.82.1.1.1 Transport channel parameters for Streaming / unknown / UL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		8000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		1068
	Uplink: Max number of bits/radio frame before rate matching		267
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.82.1.1.4 TFCS

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

7.1.82.1.2 Physical channel parameters

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

7.1.82.2 Downlink

7.1.82.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		32000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		4044
	RM attribute		125-165

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.82.2.1.4 TFCS

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

7.1.82.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

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

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

This is supported in Release '99.

7.1.83.1 Uplink

7.1.83.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2124
	Uplink: Max number of bits/radio frame before rate matching		1062
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.83.1.1.4 TFCS

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

7.1.83.1.2 Physical channel parameters

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

7.1.83.2 Downlink

7.1.83.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		256000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms		10
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.83.2.1.4 TFCS

TFCS size	16
TFCS	(256 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)= (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF3, TF0, TF0), (TF3, TF1, TF0), (TF3, TF0, TF1), (TF3, TF1, TF1)

7.1.83.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.84.1 Uplink

7.1.84.1.1 Transport channel parameters

7.1.84.1.1.1 Transport channel parameters for Interactive or Background / UL:16 + UL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		16000	16000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		2148	
	Uplink: Max number of bits/radio frame before rate matching		537	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.84.1.1.3 TFCS

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

7.1.84.1.2 Physical channel parameters

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

7.1.84.2 Downlink

7.1.84.2.1 Transport channel parameters

7.1.84.2.1.1 Transport channel parameters for Interactive or background / DL:16 + DL:16 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		16000	16000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		2148	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.84.2.1.3 TFCS

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

7.1.84.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.85.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1]

7.1.85.2 Downlink

See subclause 6.10.2.4.1.56.2 of [1]

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

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

This is supported in Release '99.

7.1.86.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1]

7.1.86.2 Downlink

7.1.86.2.1 Transport channel parameters

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

Higher Layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		128000	128000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.86.2.1.3 TFCS

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

7.1.86.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

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

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

This is supported in Release '99.

7.1.87.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1].

7.1.87.2 Downlink

7.1.87.2.1 Transport channel parameters

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

Higher Layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		384000	384000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
		TF5, bits	12x340	
	TTI, ms		10	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		12828	
	RM attribute		110-150	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.87.2.1.3 TFCS

TFCS size	12
TFCS	(384 kbps RAB + 384 kbps RAB, DCCH)= (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0) (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)

7.1.87.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.88.1 Uplink

7.1.88.1.1 Transport channel parameters

7.1.88.1.1.1 Transport channel parameters for Interactive or Background / UL:128 + UL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		128000	128000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	Uplink: Max number of bits/radio frame before rate matching		4278	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.88.1.1.3 TFCS

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

7.1.88.1.2 Physical channel parameters

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

7.1.88.2 Downlink

7.1.88.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		128000	128000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	4x340	
		TF4, bits	8x340	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		8556	
	RM attribute		120-160	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.88.2.1.3 TFCS

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

7.1.88.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

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

The minimum UE classes supporting this combination are UL: 128kbps, DL: 32kbps ~~plus support for turbo decoding~~.

This is supported in Release '99.

7.1.89.1 Uplink

See subclause 7.1.88.1

7.1.89.2 Downlink

7.1.89.2.1 Transport channel parameters

7.1.89.2.1.1 Transport channel parameters for Interactive or background / DL:32 + DL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**	**RAB**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	AM
	Payload sizes, bit		320	320
	Max data rate, bps		32000	32000
	AMD PDU header, bit		16	16
MAC	MAC header, bit		4	4
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		340	
	TFS	TF0, bits	0x340	
		TF1, bits	1x340	
		TF2, bits	2x340	
		TF3, bits	3x340	
		TF4, bits	4x340	
	TTI, ms		40	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		4284	
	RM attribute		135-175	

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.89.2.1.3 TFCS

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

7.1.89.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.90.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.90.2 Downlink

See subclause 7.1.81.2.

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

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

This is supported in Release '99.

7.1.91.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.91.2 Downlink

See subclause 7.1.82.2.

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

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

This is supported in Release '99.

7.1.92.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.92.2 Downlink

See subclause 6.10.2.4.1.23c.2 of [1].

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

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

This is supported in Release '99.

7.1.93.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.93.2 Downlink

See subclause 6.10.2.4.1.25.2 of [1].

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

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

This is supported in Release '99.

7.1.94.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.94.2 Downlink

See subclause 6.10.2.4.1.27.2 of [1].

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

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

This is supported in release '99.

7.1.95.1 Uplink

7.1.95.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.58.1.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.95.1.1.5 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1)

7.1.95.1.2 Physical channel parameters

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

7.1.95.2 Downlink

7.1.95.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 7.1.74.2.1.1.

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.95.2.1.5 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1)

7.1.95.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

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

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

This is supported in release 99.

7.1.96.1 Uplink

7.1.96.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1]

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

Higher Layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		128000
	AM PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4x656
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	Uplink: Max number of bits/radio frame before rate matching		4038
	RM attribute		125-165

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.96.1.1.5 TFCS

TFCS size	48
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1)

7.1.96.1.2 Physical channel parameters

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

7.1.96.2 Downlink

7.1.96.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 7.1.81.2.1.1

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.96.2.1.5 TFCS

TFCS size	24
TFCS	(RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1)

7.1.96.2.2 Physical channel parameters

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

7.1.97 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62 of [1].

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

This is supported in Release '5.

7.2 Combinations on S-CCPCH

7.2.1 Stand-alone signalling RB for PCCH

See subclause 6.10.2.4.3.1 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.3.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps~~ plus support for turbo decoding and 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 1280~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.3.2a of [1].

The minimum UE class supporting this combination is DL: 32 kbps plus support for 5 AM entities~~, support for turbo decoding and 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 1280~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.3.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps~~ plus support for turbo decoding and 'Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant' = 1280~~.

This is supported in Release '99.

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

See subclause 6.10.2.4.3.4 of [1].

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

This is supported in Release '99.

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

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

This is supported in Release '99.

7.2.6.1 Transport channel parameters

7.2.6.1.1 Transport channel parameters of RB for CTCH

Higher layer	RAB/signalling RB		N/A
	User of Radio Bearer		BMC
RLC	Logical channel type		CTCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		15200
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		168
	TFS	TF0, bts	0x168
		TF1, bits	1x168
	TTI, ms		10
	Coding type		CC ½
	CRC, bit		16
	Max number of bits/TTI before rate matching		384
	RM attribute		200-240

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

See subclause 6.10.2.4.3.2.1.1 of [1].

7.2.6.1.3 Transport channel parameter of SRB for PCCH

See subclause 6.10.2.4.3.1.1.1 of [1].

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

See subclause 6.10.2.4.3.2.1.2 of [1].

7.2.6.1.5 TFCS

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

7.2.6.2 Physical channel parameters

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

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

7.2.7.1 Transport channel parameters

7.2.7.1.1 Transport channel parameters for Interactive/Background 16 kbps PS RAB

Higher layer	RAB/signalling RB		RAB
	User of Radio Bearer		Interactive/ Background RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		16000
	AMD PDU header, bit		16
MAC	MAC header, bit		24
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		360
	TFS	TF0, bits	0x360
		TF1, bits	1x360
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI before rate matching		1140
	RM attribute		110-150

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

Higher layer	RAB/signalling RB		SRB#0	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5
	User of Radio Bearer		RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC
RLC	Logical channel type		CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
	RLC mode		UM	UM	AM	AM	AM	TM
	Payload sizes, bit		152	136 or 120 (note)	128	128	128	166
	Max data rate, bps		15200	13600 or 12000	12800	12800	12800	16600
	AMD/UMD/TrD PDU header, bit		8	8	16	16	16	0
MAC	MAC header, bit		8	24 or 40	24	24	24	2
	MAC multiplexing		6 logical channel multiplexing					
Layer 1	TrCH type		FACH					
	TB sizes, bit		168					
	TFS	TF0, bits	0x168					
		TF1, bits	1x168					
		TF2, bits	2x168					
	TTI, ms		20					
	Coding type		CC 1/2					
	CRC, bit		16					
	Max number of bits/TTI before rate matching		752					
	RM attribute		200-240					

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

7.2.7.1.3 TFCS

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

7.2.7.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	128
	Number of TFCI bits/slot	2
	Number of Pilot bits/slot	0
	Number of data bits/slot	38
	Number of data bits/frame	570

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

This is supported in Release '99.

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

7.2.8.1 Transport channel parameters

7.2.8.1.1 Transport channel parameters of 8 kbps RB for CTCH

Higher layer	RAB/signalling RB		N/A
	User of Radio Bearer		BMC
RLC	Logical channel type		CTCH
	RLC mode		UM
	Payload sizes, bit		152
	Max data rate, bps		7600
	UMD PDU header, bit		8
MAC	MAC header, bit		8
	MAC multiplexing		N/A
Layer 1	TrCH type		FACH
	TB sizes, bit		168
	TFS	TF0, bts	0x168
		TF1, bits	1x168
	TTI, ms		20
	Coding type		CC 1/3
	CRC, bit		16
	Max number of bits/TTI before rate matching		576
	RM attribute		200-240

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

Higher layer	RAB/signalling RB		SRB#0	SRB#5
	User of Radio Bearer		RRC	RRC
RLC	Logical channel type		CCCH	BCCH
	RLC mode		UM	TM
	Payload sizes, bit		152	166
	Max data rate, bps		7600	8300
	AMD/UMD/TrD PDU header, bit		8	0
MAC	MAC header, bit		8	2
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		FACH	
	TB sizes, bit		168	
	TFS	TF0, bits	0x168	
		TF1, bits	1x168	
	TTI, ms		20	
	Coding type		CC 1/3	
	CRC, bit		16	
	Max number of bits/TTI before rate matching		576	
	RM attribute		200-240	

7.2.8.1.3 TFCS

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

7.2.8.2 Physical channel parameters

SCCPCH	DTX position	Flexible
	Spreading factor	256
	Number of TFCI bits/slot	2
	Number of Pilot bits/slot	0
	Number of data bits/slot	18
	Number of data bits/frame	270

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

This is supported in Release '99.

7.3 Combinations on PRACH

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

See subclause 6.10.2.4.4.1 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.4.2 of [1].

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

This is supported in Release '99.

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

8.1 Combinations on DPCH

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

See subclause 6.10.3.4.1.1 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.2 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.3 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.4 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.5 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.6 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.7 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.8 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.9 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.10 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.11 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 2560 and TB TC bits 1280, DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 ~~and TB TC bits 1280~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 (Alt. 3840) and TB TC bits 1280 (Alt. 2560).

This is supported in Release '99.

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

See subclause 6.10.3.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for minimum SF 4, turbo coding, maximum TB bits 1280 (Alt. 2560) and TB TC bits 640 (Alt. 1280), DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 1280(Alt. 2560) ~~and TB TC bits 640 (Alt. 1280)~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 1280 and TB TC bits 640, DL: 32kbps ~~plus support for turbo coding, maximum TB bits 1280 and TB TC bits 640~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 2560 and TB TC bits 1280, DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 ~~and TB TC bits 1280~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 64kbps plus support for turbo coding, maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.18 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 2560, and maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.19 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, and 2 physical channels per TS, DL: 32kbps.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, or alternatively plus support for maximum CC TB bits 1280 if turbo coding is not used; DL: 32kbps ~~plus support for turbo coding plus maximum TC TB bits 640, or alternatively, not support for turbo coding if convolutional coding with rate 1/3 is used~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.24 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for 2 physical channels per TS, DL: 32kbps ~~plus support for turbo coding, maximum TC TB bits 640, or alternatively not support for turbo coding if convolutional coding with rate 1/3 is used~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, or (alternatively plus support for maximum CC TB bits 1280 if convolutional coding with rate 1/3 is used instead of turbo coding); DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for2 physical channels per TS; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for2 physical channels per TS; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 3840, and maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 3840, and maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for 2 physical channels per TS;; DL: 64 kbps plus support for maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, and 2 physical channels per TS; DL: 64 kbps plus support for maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for 2 physical channels per TS; DL: 128kbps plus support for 16 physical channels per frame, or (if an alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI).

This is supported in Release '99.

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

See subclause 6.10.3.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for 2 physical channels per TS; DL: 384kbps or if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI; DL: 384kbps or (if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960).

This is supported in Release '99.

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

See subclause 6.10.3.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum TB bits 8960, maximum TC TB bits 8960, and maximum 32 TBs per TTI, or if an alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI; DL: 384kbps or if an alternative RAB is used, plus support for maximum TB bits 8960, maximum TC TB bits 8960.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for 2 physical channels per TS; DL: 2048kbps plus support for maximum TB bits 40960 and maximum TB TC bits 40960, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TC TB bits 81920.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.36 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI; DL: 2048kbps plus support for maximum TB bits 40960 and maximum TB TC bits 40960, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.37 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum TB bits 8690, maximum TC TB bits 8690, and maximum 32 TBs per TTI, or if an alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120 and maximum 16 TBs per TTI; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TB TC bits 40960, optional SF 1, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920..

This is supported in Release '99.

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

See subclause 6.10.3.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, or if turbo coding is alternatively not used, support for maximum CC TB bits 1280; DL: 32 kbps plus ~~support for Turbo coding, maximum TC TB bits 640, and maximum TB bits 1280, or alternatively,~~ if convolutional coding with rate 1/3 is used instead of turbo coding, support for maximum CC TB bits 1280.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, alternatively, if covolutional coding with rate 1/3 is used instead of turbo coding, support for maximum TC TB bits 1280; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps ; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.41 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.3.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128kbps plus support of 20 physical channels per frame and 10 physical channels per TS, or if an alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps plus, or if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for maximum 16 TBs per TTI, and 2 physical channels per TS; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support 2 physical channels per TS;~~;~~ DL: 32 kbps plus ~~turbo coding,~~ maximum TB bits 3840 and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.46 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 2560, and maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, ~~maximum TC TB bits 1280,~~ or if the alternative RAB is used, plus support for maximum TB bits 3840 and maximum TC TB bits 2560.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF1, or if the alternative RAB is used, maximum TB bits 6400, maximum TC TB bits 5120, and maximum 16 TBs per TTI; DL: 128 kbps or if the alterntive RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 5120.

This is supported in Release '99

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

See subclause 6.10.3.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 3840, or if the alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps ; DL: 128kbps plus support for maximum TB bits 5120, maximum TC TB bits 5120, or if the alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400).

This is supported in Release '99.

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

See subclause 6.10.3.4.1.53 of [1].

The minimum UE classes for this combination are UL: 64kbps plus support for support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI, and 2 physical channels per TS, or if the alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400); DL: 128 kbps plus support for support for maximum TB bits 5120, maximum TC TB bits 5120, or if the RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400.

This is supported in Release '99.

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

See subclause 6.10.3.4.1.54 of [1].

The minimum UE classes for this combination are UL: 64 kbps plus support for 2 physical channels per TS; DL: 128 kbps plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI.

This is supported in Release '99.

8.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

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

See subclause 6.10.3.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbps (See Note), DL: 128kbps plus support for 21 physical channels per frame, maximum TB bits (Alt. 7680), TB CC bits 1280, TB TC bits (Alt. 6400) and (Alt. TTI TB 32).

NOTE: Physical parameters for this RAB define two UL codes and one timeslot. To avoid the UL multicode requirement only supported by the 768kbs class, a second timeslot is provided for the PUSCH.

This is supported in Release '99.

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

See subclause 6.10.3.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps (See Note), DL: 384kbps plus support for 29 physical channels per frame, maximum TB bits (Alt. 10240), TB CC bits 1280, and TB TC bits (Alt. 8960).

NOTE: Physical parameters for this RAB define two UL codes and one timeslot. To avoid the UL multicode requirement only supported by the 768kbs class, a second timeslot is provided for the PUSCH.

This is supported in Release '99.

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

See subclause 6.10.3.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbps (See Note), DL: 2Mbps plus support for 137 physical channels per frame, maximum TB bits 40960 (Alt. 81920), TB CC bits 1280, and TB TC bits 40960 (Alt. 81920).

NOTE: Physical parameters for this RAB define two UL codes and one timeslot. To avoid the UL multicode requirement only supported by the 768kbs class, a second timeslot is provided for the PUSCH.

This is supported in Release '99.

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

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

See subclause 6.10.3.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, and maximum 16 TBs per TTI, 2 physical channels per TS; DL: 384kbps plus support for maximum CC TB bits 1280, or if the alternative RAB is used, support for maximum TB bits 7680.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

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

See subclause 6.10.3.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, maximum 16 TBs per TTI, and 2 physical channels per TS ; DL: 384kbps plus support for maximum CC TB bits 1280, 31 physical channels per frame, or if the alternative RAB is used, support for maximum TB bits 10240, maximum TC TB bits 8960, and maximum 48 TBs per TTI.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

8.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.10.3.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, maximum 16 TBs per TTI, and 2 physical channels per TS; DL: 2048kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, and maximum CC TB bits 1280, 139 physical channels per frame, or if the alternative RAB is used, support for maximum TB bits 81920, maximum TC TB bits 81920.

This is supported in Release '99.

8.4 Combinations on SCCPCH

8.4.1 Stand – alone signalling RB for PCCH

See subclause 6.10.3.4.4.1 of [1].

The minimum UE class supporting this combination is DL: 32 kbps. This is supported in Release '99

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

See subclause 6.10.3.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 2560~~,~~ and maximum CC TB bits 1280~~, and maximum TC TB bits 1280~~.

This is supported in Release '99.

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

See subclause 6.10.3.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, maximum CC TB bits 2560~~, and maximum TC TB bits 1280~~, maximum 48 TFC, or if the alternative RAB is used, support for maximum 16 TBs per TTI, and maximum 64 TFC.

This is supported in Release '99.

8.5 Combinations on PRACH

8.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.1 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

9 Examples of Radio Bearers and Signalling Radio Bearers for 1.28 Mcps TDD

9.1 Combinations on DPCH

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

See subclause 6.11.5.4.1.1 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.2 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.3 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.4 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.5 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.6 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.7 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.8 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.9 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.10 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.11 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 2560 and TB TC bits 1280, DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 ~~and TB TC bits 1280~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 (Alt. 3840) and TB TC bits 1280 (Alt. 2560).

This is supported in Release 4.

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

See subclause 6.11.5.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 1280 (Alt. 2560) and TB TC bits 640 (Alt. 1280), DL: 32kbps plus support for ~~turbo coding and~~ maximum TB bits 1280(Alt. 2560) ~~and TB TC bits 640 (Alt. 1280)~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 1280 and TB TC bits 640, DL: 32kbps ~~plus support for turbo coding, maximum TB bits 1280 and TB TC bits 640~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps plus support for turbo coding, maximum TB bits 2560 and TB TC bits 1280; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560 ~~and TB TC bits 1280~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.18 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 2560, and maximum 16 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.19 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI; DL: 32kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, or alternatively plus support for maximum CC TB bits 1280 if turbo coding is not used; DL: 32kbps ~~plus support for turbo coding plus maximum TC TB bits 640, or alternatively, not support for turbo coding if convolutional coding with rate 1/3 is used~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.24 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 32kbps ~~plus support for turbo coding, maximum TC TB bits 640, or alternatively not support for turbo coding if convolutional coding with rate 1/3 is used~~.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, or ir alternatively plus support for maximum CC TB bits 1280 if convolutional coding with rate 1/3 is used instead of turbo coding; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 32kbps plus support for ~~turbo coding,~~ maximum TB bits 2560, and maximum TC TB bits 2560.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.27 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, and SF 1; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.29 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, SF 1, and alternatively to spport for 8PSK if QPSK is not used; DL: 128kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128 kbps plus support for optional SF 1, or if an alternateive RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128 kbps plus maximum TB bits 5120, maximum TC TB bits 5120, SF 1, and 8PSK if QPSK is not used, or if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960, and maximum 32 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, and SF 1; DL: 128 kbps plus maximum TB bits 5120, maximum TC TB bits 5120, optional SF 1, and 8PSK if QPSK is not used, or if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960, and maximum 32 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum TB bits 8960, maximum TC TB bits 8960, and maximum 32 TBs per TTI, SF 1, and 8PSK if QPSK is not used, or if an alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI); DL: 384kbps plus support for SF 1, 8PSK if QPSK is not used, or if an alternative RAB is used, plus support for maximum TB bits 8960, maximum TC TB bits 8960.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps plus support for maximum TB bits 40960 and maximum TB TC bits 40960, and SF 1.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.36 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support for maximum 16 TBs per TTI, and SF 1; DL: 2048kbps plus support for maximum TB bits 40960 and maximum TB TC bits 40960, and SF 1.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.37 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum TB bits 8690, maximum TC TB bits 8690, and maximum 32 TBs per TTI, SF 1, and 8PSK if QPSK is not used, or if an alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120 and maximum 16 TBs per TTI; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TB TC bits 40960.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, or alternatively if turbo coding is not used, support for maximum CC TB bits 1280; DL: 32kbps plus ~~support for Turbo coding, maximum TC TB bits 640, and maximum TB bits 1280, or alternatively,~~ if convolutional coding with rate 1/3 is used instead of turbo coding, support for maximum CC TB bits 1280.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, or alternatively, if covolutional coding with rate 1/3 is used instead of turbo coding, support for maximum TC TB bits 1280; DL: 64kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps plus support of SF 1; DL: 64 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF 1; DL: 128 kbps plus support for 8PSK if QPSK is not used.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF 1; DL: 128kbps plus support of 8PSK if QPSK is not supported, or if an alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF1; DL: 384 kbps plus support for optional SF 1, 8PSK if QPSK is not used, or if an alternative RAB is used, support for maximum TB bits 8960, maximum TC TB bits 8960.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for maximum 16 TBs per TTI, SF1, and 8PSK if QPSK is not used; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, SF 1, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.45 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.1.46 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 64 kbps plus support for maximum 16 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF1; DL: 64 kbps.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support of SF1, or if the alternative RAB is used, maximum TB bits 6400, maximum TC TB bits 5120, and maximum 16 TBs per TTI; DL: 128 kbps plus support for 15 physical channels per TS, or if the alterntive RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 5120.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps plus support of SF1; DL: 32 kbps plus support for ~~turbo coding,~~ maximum TB bits 3840, maximum TC TB bits 3840, SF1, or if the alternative RAB is used, plus support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps plus support of SF1; DL: 128kbps plus support for maximum TB bits 5120, maximum TC TB bits 5120, 24 physical channels per subframe, or if the alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400.

This is supported in Release 4.

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

See subclause 6.11.5.4.1.53 of [1].

The minimum UE classes for this combination are UL: 64kbps plus support for support for maximum TB bits 5120, maximum TC TB bits 5120, and maximum 16 TBs per TTI, SF1, and 8PSK if QPSK is not used, or if the alternative RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400); DL: 128 kbps plus support for support for maximum TB bits 5120, maximum TC TB bits 5120, 24 physical channels per subframe, or (if the RAB is used, plus support for maximum TB bits 6400, maximum TC TB bits 6400).

This is supported in Release 4.

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

See subclause 6.11.5.4.1.54 of [1].

The minimum UE classes for this combination are UL: 64 kbps; DL: 128 kbps plus support for maximum TB bits 6400, maximum TC TB bits 6400, and maximum 32 TBs per TTI, and 24 physical channels per subframe.

This is supported in Release 4.

9.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

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

See subclause 6.11.5.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbs plus support for SF 1; DL: 384kbs plus support for (Alt. 8PSK), maximum TB bits (Alt. 7680), TB CC bits 1280, TB TC bits (Alt. 6400) and (Alt. TTI TB 32).

This is supported in Release 4.

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

See subclause 6.11.5.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbs plus support for SF 1, DL: 384kbs (with SF 1 option) plus support for maximum TB bits (Alt. 10240), TB CC bits 1280, and TB TC bits (Alt. 8960).

This is supported in Release 4.

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

See subclause 6.11.5.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbs plus support for SF 1, DL: 2Mbps plus support for maximum TB bits 40960 (Alt. 81920) and TB CC bits 1280.

This is supported in Release 4.

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

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

See subclause 6.11.5.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, maximum 16 TBs per TTI, and SF 1 for PUSCH; DL: 384kbps plus support for maximum CC TB bits 1280, 5 TS per subframe, optional SF 1, 8PSK if QPSK is not used for PDSCH, or if the alternative RAB is used, support for maximum TB bits 7680.

PS. Assume the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release 4.

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

See subclause 6.11.5.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, maximum 16 TBs per TTI, and SF 1 for PUSCH; DL: 384kbps plus support for maximum CC TB bits 1280, 5 TS per subframe, optional SF 1 for PDSCH, or if the alternative RAB is used, support for maximum TB bits 10240, maximum TC TB bits 8960, and maximum 48 TBs per TTI.

PS. Assume the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release 4.

9.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.11.5.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum CC TB bits 1280, maximum 16 TBs per TTI, and SF 1 for PUSCH; DL: 2048kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, and maximum CC TB bits 1280, 5 TS per subframe, optional SF 1 for PDSCH, or if the alternative RAB is used, support for maximum TB bits 81920, maximum TC TB bits 81920.

This is supported in Release 4.

9.4 Combinations on SCCPCH

9.4.1 Stand – alone signalling RB for PCCH

See subclause 6.11.5.4.4.1 of [1].

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

This is supported in Release 4.

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

See subclause 6.11.5.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 64 kbps plus support for maximum CC TB bits 1280.

This is supported in Release 4.

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

See subclause 6.11.5.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 64 kbps plus support for maximum CC TB bits 2560, or if the alternative RAB is used, support for maximum 16 TBs per TTI, and maximum 64 TFC.

This is supported in Release 4.

9.5 Combinations on PRACH

9.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.11.5.4.5.1 of [1].

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

This is supported by Release 4.

3GPP TSG-RAN WG2 Meeting #37
Budapest, Hungary, August 25th-29th 2003

***Tdoc* ⌘ R2-031954**

CR-Form-v7

CHANGE REQUEST

⌘ **25.993** **CR** **013** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Addition of Streaming RABs
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25/08/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ Current specification defines RAB combinations which would not allow operators optimum flexability for TF selection for streaming services. In particular the following RABs have omitted some TFs. This was due to a reduced definition of TFs necessary to enable the test cases in TS34.108 to be kept to a minimum, and avoid increasing testing complexity.

7.1.73 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB
7.1.74.2.1.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB
7.1.83.2.1.1 Transport channel parameters for Streaming / unknown / DL:256 kbps / PS RAB

Summary of change: ⌘

- Add missing TF of 3x656 bits to TFS in DL streaming PS RAB combinations for,

  7.1.73a Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB
  7.1.74.2.1.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB
  7.1.83.2.1.2 Transport channel parameters for Streaming / unknown / DL:256 kbps / PS RAB

  In addition the TFCS have been updated accordingly.

- Section 7.1.83.1.1.4 TFCS – for the UL Streaming / unknown / UL:32 / PS RAB + Interactive or Background / UL:8 / PS RAB + UL:3.4 kbps SRBs for

		DCCH The TFC's are not consistent with the standard definition used, in that the TFC's do not follow the incremental CTFC 'rule'. This is corrected.
Consequences if not approved:	⌘	Possible useful TF configurations may not be supported by poor UE implementations which adhere directly to RABs identified in this TR.

Clauses affected:	⌘	7.1.73a, 7.1.74.2.1.1, 7.1.74.2.1.4, 7.1.83.1.1.4, 7.1.83.2.1.1, 7.1.83.2.1.4			
Other specs affected:	⌘	**Y**	**N**	Other core specifications Test specifications O&M Specifications	⌘
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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

See subclause 6.10.2.4.1.58 of [1].
The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps plus support for 5 AM entities.
This is supported in Release '99.

7.1.73a Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH – Alternative

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps plus support for 5 AM entities.
This is supported in Release '99.

7.1.73a.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1]

7.1.73a.2 Downlink

7.1.73a.2.1 Transport channel parameters

7.1.73a.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		64000
	AM PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	3x656
		TF4, bits	4x656
	TTI, ms		40
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

7.1.73a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2 of [1]

7.1.73a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1]

7.1.73a.2.1.4 TFCS

TFCS size	20
TFCS	(64 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1),

7.1.73a.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		32
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 128kbps.
This is supported in Release '99.

7.1.74.1 Uplink

7.1.74.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.58.1.1.1 of [1]

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

See subclause 6.10.2.4.1.38b.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.74.1.1.4 TFCS

See subclause 6.10.2.4.1.58.1.1.4 of [1].

7.1.74.1.2 Physical channel parameters

See subclause 6.10.2.4.1.58.1.2 of [1].

7.1.74.2 Downlink

7.1.74.2.1 Transport channel parameters

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

Higher Layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		128000
	AM PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		~~TF2~~TF3, bits	~~2x656~~3x656
		~~TF3~~TF4, bits	4x656
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

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

See subclause 6.10.2.4.1.38b.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.74.2.1.4 TFCS

TFCS size	~~16~~20
TFCS	(128 kbps RAB, 8 kbps RAB, DCCH)= (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1),

7.1.74.2.2 Physical channel parameters

DPCH Downlink	DTX position		Flexible
	Spreading factor		16
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

[…BREAK IN SECTIONS…]

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

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.
This is supported in Release '99.

7.1.83.1 Uplink

7.1.83.1.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		320
	Max data rate, bps		32000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		336
	TFS	TF0, bits	0x336
		TF1, bits	1x336
		TF2, bits	2x336
	TTI, ms		20
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		2124
	Uplink: Max number of bits/radio frame before rate matching		1062
	RM attribute		135-175

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.83.1.1.4 TFCS

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

7.1.83.1.2 Physical channel parameters

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

7.1.83.2 Downlink

7.1.83.2.1 Transport channel parameters

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

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		640
	Max data rate, bps		256000
	AMD PDU header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		656
	TFS	TF0, bits	0x656
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	3x656
		~~TF3~~TF4, bits	4x656
	TTI, ms		10
	Coding type		TC
	CRC, bit		16
	Max number of bits/TTI after channel coding		8076
	RM attribute		125-165

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.83.2.1.4 TFCS

TFCS size	~~16~~20
TFCS	(256 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)= ~~(TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),~~ ~~(TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),~~ ~~(TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1),~~ ~~(TF3, TF0, TF0), (TF3, TF1, TF0), (TF3, TF0, TF1), (TF3, TF1, TF1)~~ (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0), (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1),

7.1.83.2.2 Physical channel parameters

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