

TSG-CN
Meeting #7, Madrid, Spain, 13th – 15th March 2000

Tdoc NP (00)00122

Rev 1

To : TSG-T, TSG-RAN

Cc : TSG-SA, TSG-CN

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

Title: Typical Radio Parameter Sets Document submission

Document for: Information

Agenda Item: 4.3

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

Meeting Number **ISG #3**

IS Doc 039/00

Meeting Date **28-29 February 2000**

Meeting Location **Rome, Italy**

Title **Typical Radio Parameter Sets Document submission**

Source **ISG Radio ad-hoc group**

Date **28 Feb 00**

| | | |
|---|--|----------|
| Security Classification Category*: | | |
| Restricted - Members | | X |
| Restricted – Group Members | | X |

| | |
|-----------------------------|--|
| Information Category | |
|-----------------------------|--|

| |
|--|
| <i>Restricted - Confidential Information</i> |
| <p>Access to and distribution of this document is restricted to the persons listed under the heading Security Classification Category*. This document is confidential to the Association and is subject to copyright protection. This document is to be used only for the purposes for which it has been supplied and information contained in it must not be disclosed or in any other way made available, in whole or in part, to persons other than those listed under Security Classification Category* without the prior written approval of the Association. The GSM MoU Association ("Association") makes no representation, warranty or undertaking (express or implied) with respect to and does not accept any responsibility for, and hereby disclaims liability for the accuracy or completeness or timeliness of the information contained in this document. The information contained in this document may be subject to change without prior notice.</p> <p style="text-align: center;">© Copyright of the GSM MoU Association 1999</p> |

Document History

| Revision | Date | Brief Description |
|-----------------|-------------|--------------------------|
| | | |

Summary

Title: Typical Radio Parameter Sets Document submission to 3GPP

Document for: Information

Typical Radio Interface Parameter Sets

Version 1.0

February 2000

Contents

| | | |
|-------------|---|-----------|
| 1. | <u>SCOPE</u> | 6 |
| 2. | <u>REFERENCE</u> | 6 |
| 3. | <u>ABBREVIATIONS</u> | 6 |
| 4. | <u>QOS ARCHITECTURE AND RAB ATTRIBUTES</u> | 7 |
| 5. | <u>RAB AND SIGNALLING RB</u> | 8 |
| 5.1. | <u>RABs and signalling RBs</u> | 8 |
| 5.2. | <u>Combinations of RABs and Signalling RBs</u> | 9 |
| 5.3. | <u>Example of linkage between RABs and services</u> | 11 |
| 5.4. | <u>Typical parameter sets</u> | 13 |
| 5.4.1. | <u>Combinations on DPCH</u> | 13 |
| 5.4.1.1. | <u>Transport channel parameters for RABs and signalling RBs</u> | 13 |
| 5.4.1.1.1. | <u>Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB</u> | 13 |
| 5.4.1.1.2. | <u>Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB</u> | 14 |
| 5.4.1.1.3. | <u>Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB</u> | 14 |
| 5.4.1.1.4. | <u>Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB</u> | 15 |
| 5.4.1.1.5. | <u>Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB</u> | 16 |
| 5.4.1.1.6. | <u>Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB</u> | 17 |
| 5.4.1.1.7. | <u>Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB</u> | 18 |
| 5.4.1.1.8. | <u>Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB</u> | 19 |
| 5.4.1.1.9. | <u>Conversational / unknown / UL:64 DL:64 kbps / CS RAB</u> | 20 |
| 5.4.1.1.10. | <u>Conversational / unknown / UL:32 DL:32 kbps / CS RAB</u> | 21 |
| 5.4.1.1.11. | <u>Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB</u> | 21 |
| 5.4.1.1.12. | <u>Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB</u> | 22 |
| 5.4.1.1.13. | <u>Streaming / unknown / UL:0 DL:64 kbps / PS RAB</u> | 23 |
| 5.4.1.1.14. | <u>Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB</u> | 23 |
| 5.4.1.1.15. | <u>Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB</u> | 23 |
| 5.4.1.1.16. | <u>Interactive or background / UL:32 DL:8 kbps / PS RAB</u> | 23 |
| 5.4.1.1.17. | <u>Interactive or background / UL:64 DL:8 kbps / PS RAB</u> | 24 |
| 5.4.1.1.18. | <u>Interactive or background / UL:32 DL: 64 kbps / PS RAB</u> | 25 |
| 5.4.1.1.19. | <u>Interactive or background / UL:64 DL: 64 kbps / PS RAB</u> | 25 |
| 5.4.1.1.20. | <u>Interactive or background / UL:64 DL:128 kbps / PS RAB</u> | 25 |
| 5.4.1.1.21. | <u>Interactive or background / UL:128 DL:128 kbps / PS RAB</u> | 26 |
| 5.4.1.1.22. | <u>Interactive or background / UL:64 DL:384 kbps / PS RAB</u> | 27 |
| 5.4.1.1.23. | <u>Interactive or background / UL:128 DL:384 kbps / PS RAB</u> | 27 |
| 5.4.1.1.24. | <u>Interactive or background / UL:384 DL:384 kbps / PS RAB</u> | 27 |
| 5.4.1.1.25. | <u>Interactive or background / UL:64 DL:2048 kbps / PS RAB</u> | 28 |
| 5.4.1.1.26. | <u>Interactive or background / UL:128 DL:2048 kbps / PS RAB</u> | 28 |
| 5.4.1.1.27. | <u>Interactive or background / UL:384 DL:2048 kbps / PS RAB</u> | 29 |
| 5.4.1.1.28. | <u>UL:1.7 DL:1.7 kbps SRBs for DCCH</u> | 29 |
| 5.4.1.1.29. | <u>UL:3.4 DL:3.4 kbps SRBs for DCCH</u> | 30 |
| 5.4.1.1.30. | <u>UL:13.6 DL:13.6 kbps SRBs for DCCH</u> | 30 |
| 5.4.1.2. | <u>Physical channel parameters for combinations of RABs and signalling RBs</u> | 32 |
| 5.4.1.2.1. | <u>Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH</u> | 32 |
| 5.4.1.2.2. | <u>Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH</u> | 32 |
| 5.4.1.2.3. | <u>Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH</u> | 32 |
| 5.4.1.2.4. | <u>Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH</u> | 33 |
| 5.4.1.2.5. | <u>Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH</u> | 33 |

| | |
|---|----|
| | 33 |
| 5.4.1.2.6. Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 34 |
| 5.4.1.2.7. Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 34 |
| 5.4.1.2.8. Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 35 |
| 5.4.1.2.9. Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 35 |
| 5.4.1.2.10. Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH | 36 |
| 5.4.1.2.11. Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH | 37 |
| 5.4.1.2.12. Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 37 |
| 5.4.1.2.13. Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 38 |
| 5.4.1.2.14. Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 38 |
| 5.4.1.2.15. Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 39 |
| 5.4.1.2.16. Streaming / unknown / UL:0 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 39 |
| 5.4.1.2.17. Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 39 |
| 5.4.1.2.18. Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 39 |
| 5.4.1.2.19. Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 40 |
| 5.4.1.2.20. Interactive or background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 40 |
| 5.4.1.2.21. Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 40 |
| 5.4.1.2.22. Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 41 |
| 5.4.1.2.23. Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 41 |
| 5.4.1.2.24. Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 41 |
| 5.4.1.2.25. Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH | 42 |
| 5.4.1.2.26. Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 42 |
| 5.4.1.2.27. Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 42 |
| 5.4.1.2.28. Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 42 |
| 5.4.1.2.29. Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 43 |
| 5.4.1.2.30. Interactive or background / UL:384 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 43 |
| 5.4.1.2.31. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 43 |
| 5.4.1.2.32. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH | 44 |
| 5.4.1.2.33. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH | 44 |
| 5.4.1.2.34. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 45 |
| 5.4.1.2.35. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 45 |
| 5.4.1.2.36. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 46 |
| 5.4.1.2.37. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 46 |
| 5.4.1.2.38. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 47 |

| | | |
|-------------|--|----|
| 5.4.1.2.39. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 47 |
| 5.4.1.2.40. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 47 |
| 5.4.1.2.41. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 48 |
| 5.4.1.2.42. | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 48 |
| 5.4.1.2.43. | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 49 |
| 5.4.1.2.44. | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 49 |
| 5.4.1.2.45. | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 50 |
| 5.4.1.2.46. | Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 50 |
| 5.4.1.2.47. | Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 50 |
| 5.4.2. | Combinations on PDSCH and DPCH | 52 |
| 5.4.2.1. | Transport channel parameters for RABs and signalling RBs | 52 |
| 5.4.2.1.1. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB | 52 |
| 5.4.2.1.2. | Interactive or background / UL:64 DL:384 kbps / PS RAB | 52 |
| 5.4.2.1.3. | Interactive or background / UL:64 DL:2048 kbps / PS RAB | 52 |
| 5.4.2.1.4. | UL:3.4 DL: 3.4 kbps SRBs for DCCH | 52 |
| 5.4.2.2. | Physical channel parameters for combinations of RABs and signalling RBs | 52 |
| 5.4.2.2.1. | Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH | 52 |
| 5.4.2.2.2. | Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH | 52 |
| 5.4.2.2.3. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 53 |
| 5.4.2.2.4. | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | 53 |
| 5.4.3. | Combinations on SCCPCH | 54 |
| 5.4.3.1. | Stand-alone signalling RB for PCCH | 54 |
| 5.4.3.1.1. | Transport channel parameter | 54 |
| 5.4.3.1.2. | Physical channel parameters | 54 |
| 5.4.3.2. | Interactive/Background 32 kbps PS RAB + 50.4 kbps SRBs for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH | 55 |
| 5.4.3.2.1. | Transport channel parameters | 55 |
| 5.4.3.2.2. | Physical channel parameters | 55 |
| 5.4.3.3. | Interactive/Background 32 kbps RAB + SRBs for PCCH + 50.4 kbps SRB for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH | 56 |
| 5.4.3.3.1. | Transport channel parameters | 56 |
| 5.4.3.3.2. | Physical channel parameters | 56 |
| 5.4.4. | Combinations on PRACH | 57 |
| 5.4.4.1. | Interactive/Background 32 kbps PS RAB + 16.6 kbps SRB for CCCH + 13.6 kbps SRB for DCCH | 57 |
| 5.4.4.1.1. | Transport channel parameter | 57 |
| 5.4.4.1.2. | Physical channel parameters | 57 |

1. Scope

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

2. Reference

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

3. Abbreviations

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

4. QoS Architecture and RAB attributes

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

The UMTS Bearer Service consists of two parts, the Radio Access Bearer Service, RAB, and the Core Network Bearer Service. The Radio Access Bearer Service is realised by a Radio Bearer Service and an Iu-Bearer Service. The relationship between the services is illustrated in figure 1.

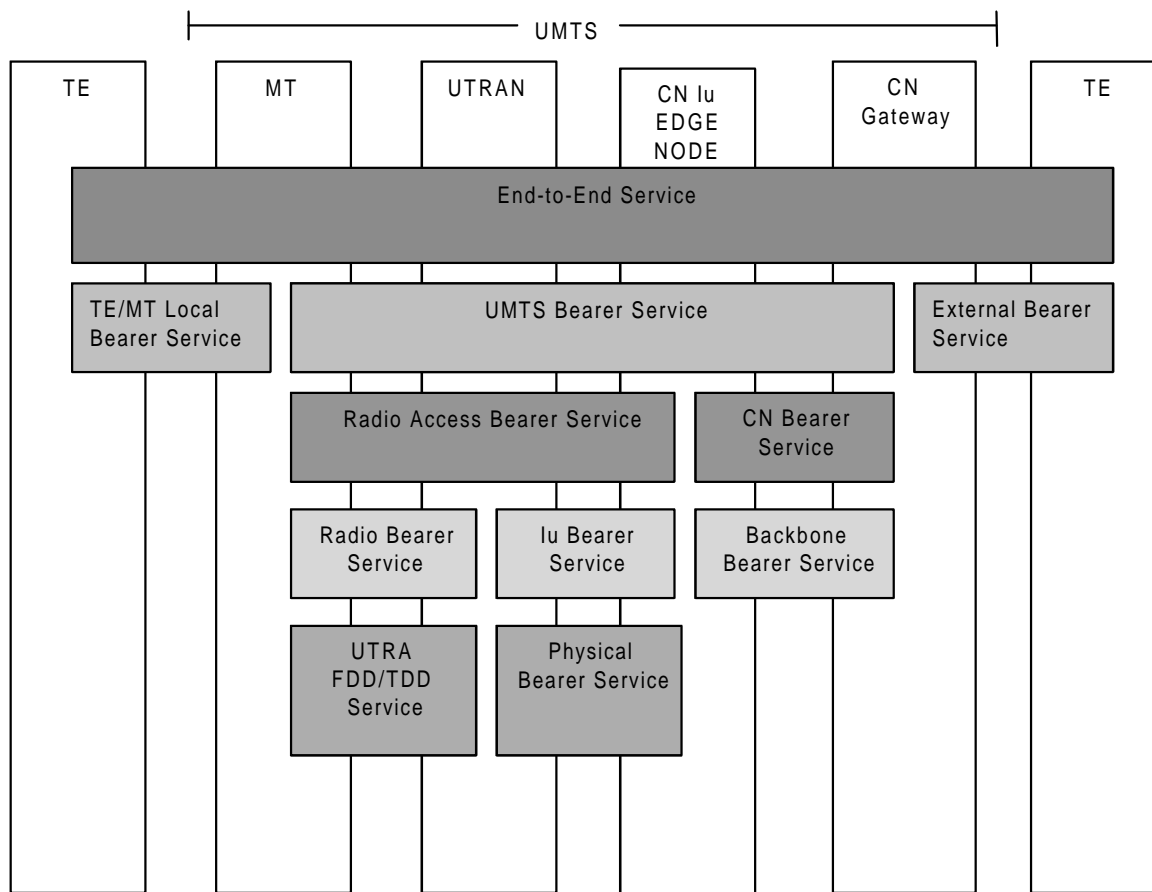


Figure 1: UMTS QoS Architecture

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

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

The Traffic classes are explained in table 1. The Maximum bit rate has been considered at RLC layer and Physical Layer for the acknowledged and unacknowledged modes respectively. The Residual BER is understood as BER at RLC layer and Transport BLER for the acknowledged and unacknowledged modes respectively.

Table 1: Traffic classes

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

5. RAB and signalling RB

5.1. RABs and signalling RBs

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

Table 2: Prioritised RABs.

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

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

Table 3: Signalling RBs

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

5.2. Combinations of RABs and Signalling RBs

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

Combinations on DPCH

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

- 21) Interactive or background / UL:32 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 22) Interactive or background / UL:64 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 23) Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 24) Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 25) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
- 26) Interactive or background / UL:128 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 27) Interactive or background / UL:384 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 28) Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 29) Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 30) Interactive or background / UL:384 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 31) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 32) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 33) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
- 34) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 35) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 36) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 37) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:384 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 42) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 43) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 44) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB

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

Combinations on DSCH and DPCH

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

Combinations on SCCPCH

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

Combinations on PRACH

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

5.3. Example of linkage between RABs and services

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

Table 4: Example of linkage between RABs and services

| RAB | | | | Residual BER ^[3] | Services |
|------------------------------|--------------------|------------------------------|-------|--|--|
| Traffic class ^[3] | SSD ^[3] | Max. rate, kbps | CS/PS | | |
| Conversational | Speech | UL:4.75-12.2 DL:4.75-12.2 | CS | 5×10^{-4} , 1×10^{-3} , 5×10^{-3} | AMR speech |
| Conversational | Unknown | UL:64 DL:64 | CS | 1×10^{-4} or 1×10^{-6} | UDI 1B, 64k 3G-324M ^[4] |
| Conversational | Unknown | UL:32 DL:32 | CS | 1×10^{-4} or 1×10^{-6} | 32k 3G-324M ^[4] |
| Streaming | Unknown | UL:28.8 DL:28.8 | CS | 1×10^{-3} | FAX ^[6] PIAFS 32 kbps |
| Streaming | Unknown | UL:57.6 DL:57.6 | CS | 1×10^{-3} | Modem ^[6] , FTM ^[5] , PIAFS 64 kbps |
| Streaming | Unknown | UL:0 DL:64 | PS | 1×10^{-3} or 1×10^{-4} | Streaming video, uni-directional |

| | | | | | |
|------------------------------|---------|------------------------|----------|---|--------|
| Streaming | Unknown | UL:0 DL:128-384 | CS or PS | 1×10^{-3} or 1×10^{-4} | |
| Interactive or Background | N/A | UL:32-384 DL:8-2048 | PS | 1×10^{-3} or 1×10^{-4} | Packet |

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

Note: CBS can be provided via the signalling RB (CTCH) on SCCPCH

Note: UDI n B can be provided via n RABs of conversational 64 kbps.

5.4. Typical parameter sets

5.4.1. Combinations on DPCH

5.4.1.1. Transport channel parameters for RABs and signalling RBs

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

5.4.1.1.1.1. Uplink

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

5.4.1.1.1.2. Downlink

| Higher layer | RAB/Signalling RB | RAB subflow #1 | RAB subflow #2 | RAB subflow #3 | |
|--------------|----------------------|----------------|----------------|----------------|------|
| RLC | Logical channel type | DTCH | | | |
| | RLC mode | TM | TM | TM | |
| | Payload sizes, bit | 81 39 | 103 | 60 | |
| | Max data rate, bps | 12200 | | | |
| | RLC header, bit | 0 | | | |
| MAC | MAC header, bit | 0 | | | |
| | MAC multiplexing | N/A | | | |
| Layer 1 | TrCH type | DCH | DCH | DCH | |
| | TB sizes, bit | 81 39 | 103 | 60 | |
| | TFS | TF0, bits | 0 | 0 | 0 |
| | | TF1, bits | 1x81 | 1x103 | 1x60 |
| | | TF2, bits | 1x39 | - | - |
| | TTI, ms | 20 | 20 | 20 | |
| | Coding type | CC 1/3 | CC 1/3 | CC 1/2 | |
| | CRC, bit | 12 | - | - | |
| | | 13 | | | |

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

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

5.4.1.1.2.1. Uplink

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

5.4.1.1.2.2. Downlink

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

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

5.4.1.1.3.1. Uplink

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

5.4.1.1.3.2. Downlink

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

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

5.4.1.1.4.1. Uplink

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

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

5.4.1.1.4.2. Downlink

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

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

5.4.1.1.5.1. Uplink

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

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

5.4.1.1.5.2. Downlink

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

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

5.4.1.1.6.1. Uplink

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

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

5.4.1.1.6.2. Downlink

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

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

5.4.1.1.7.1. Uplink

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

5.4.1.1.7.2. Downlink

| Higher layer | RAB/Signalling RB | RAB subflow #1 | RAB subflow #2 |
|--------------|-------------------|----------------|----------------|
|--------------|-------------------|----------------|----------------|

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

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

5.4.1.1.8.1. Uplink

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

5.4.1.1.8.2. Downlink

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

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

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

5.4.1.1.9.1. Uplink

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

5.4.1.1.9.2. Downlink

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

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

5.4.1.1.10.1. Uplink

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

5.4.1.1.10.2. Downlink

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

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

5.4.1.1.11.1. Uplink

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

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

5.4.1.1.11.2. Downlink

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

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

5.4.1.1.12.1. Uplink

| Higher layer | RAB/Signalling RB | RAB | |
|---|----------------------|-----------|-------|
| RLC | Logical channel type | DTCH | |
| | RLC mode | TM | |
| | Payload sizes, bit | 576 | |
| | Max data rate, bps | 57600 | |
| | RLC header, bit | 0 | |
| MAC | MAC header, bit | 0 | |
| | MAC multiplexing | N/A | |
| Layer 1 | TrCH type | DCH | |
| | TB sizes, bit | 576 | |
| | TFS | TF0, bits | 0 |
| | | TF1, bits | 1x576 |
| | | TF2, bits | 2x576 |
| | | TF3, bits | 3x576 |
| | | TF4, bits | 4x576 |
| | TTI, ms | 40 | |
| | Coding type | TC | |
| | CRC, bit | 16 | |
| Max number of bits/TTI after channel coding | 7116 | | |
| | 22 | | |

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

5.4.1.1.12.2. Downlink

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

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

5.4.1.1.13.1. Uplink

TBD

5.4.1.1.13.2. Downlink

TBD

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

5.4.1.1.14.1. Uplink

TBD

5.4.1.1.14.2. Downlink

TBD

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

5.4.1.1.15.1. Uplink

TBD

5.4.1.1.15.2. Downlink

TBD

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

5.4.1.1.16.1. Uplink

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

5.4.1.1.16.2. Downlink

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

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

5.4.1.1.17.1. Uplink

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

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

5.4.1.1.17.2. Downlink

See 5.4.1.1.16.2.

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

5.4.1.1.18.1. Uplink

See 5.4.1.1.16.1.

5.4.1.1.18.2. Downlink

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

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

5.4.1.1.19.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.19.2. Downlink

See 5.4.1.1.18.2.

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

5.4.1.1.20.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.20.2. Downlink

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

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

5.4.1.1.21.1. Uplink

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

5.4.1.1.21.2. Downlink

See 5.4.1.1.20.2.

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

5.4.1.1.22.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.22.2. Downlink

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

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

5.4.1.1.23.1. Uplink

See 5.4.1.1.21.1.

5.4.1.1.23.2. Downlink

See 5.4.1.1.22.2.

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

5.4.1.1.24.1. Uplink

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

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

5.4.1.1.24.2. Downlink

See 5.4.1.1.22.2.

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

5.4.1.1.25.1. Uplink

See 5.4.1.1.17.1.

5.4.1.1.25.2. Downlink

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

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

5.4.1.1.26.1. Uplink

See 5.4.1.1.21.1.

5.4.1.1.26.2. Downlink

See 5.4.1.1.25.2.

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

5.4.1.1.27.1. Uplink

See 5.4.1.1.24.1.

5.4.1.1.27.2. Downlink

See 5.4.1.1.25.2.

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

5.4.1.1.28.1. Uplink

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

5.4.1.1.28.2. Downlink

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

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

5.4.1.1.29.1. Uplink

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

5.4.1.1.29.2. Downlink

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

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

5.4.1.1.30.1. Uplink

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

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

5.4.1.1.30.2. Downlink

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

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

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

5.4.1.2.1.1. Uplink

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

5.4.1.2.1.2. Downlink

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

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

5.4.1.2.2.1. Uplink

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

5.4.1.2.2.2. Downlink

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

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

5.4.1.2.3.1. Uplink

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

5.4.1.2.3.2. Downlink

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

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

5.4.1.2.4.1. Uplink

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

5.4.1.2.4.2. Downlink

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

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

5.4.1.2.5.1. Uplink

| | | | | | |
|-------------|---|---|----------------|----------------|------------------------------------|
| DPCH Uplink | RAB or SRB, TrCh | Conversational / speech 10.2 kbps / CS RAB | | | 3.4 kbps SRBs for DCCH, DCH |
| | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3 | |
| | RM attribute | TBD | TBD | TBD | TBD |
| | TFCS size | 6 | | | |
| | Min spreading factor | 64 | | | |
| | Max number of DPDCH data bits/radio frame | 600 | | | |
| | | 33 | | | |

| | |
|------------------|---|
| Puncturing Limit | 1 |
|------------------|---|

5.4.1.2.5.2. Downlink

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

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

5.4.1.2.6.1. Uplink

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

5.4.1.2.6.2. Downlink

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

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

5.4.1.2.7.1. Uplink

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

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

5.4.1.2.7.2. Downlink

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

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

5.4.1.2.8.1. Uplink

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

5.4.1.2.8.2. Downlink

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

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

+ UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.2.9.1. Uplink

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

5.4.1.2.9.2. Downlink

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

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

5.4.1.2.10.1. Uplink

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

5.4.1.2.10.2. Downlink

| DPCH Downlink | RAB or SRB, TrCh | Conversational / speech / 5.15 kbps / CS RAB, DCH | | 1.7 kbps SRBs for DCCH, DCH |
|---------------|--------------------------|---|----------------|-----------------------------|
| | | RAB subflow #1 | RAB subflow #2 | |
| | RM attribute | TBD | TBD | TBD |
| | TFCS size | 6 | | |
| | DTX position | Fixed | | |
| | Spreading factor | 256 | | |
| DPCCH | Number of TFCI bits/slot | 0 | | |
| | Number of TPC bits/slot | 2 | | |
| | | 36 | | |

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

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

5.4.1.2.11.1. Uplink

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

5.4.1.2.11.2. Downlink

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

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

5.4.1.2.12.1. Uplink

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

5.4.1.2.12.2. Downlink

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

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

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

5.4.1.2.13.1. Uplink

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

5.4.1.2.13.2. Downlink

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

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

5.4.1.2.14.1. Uplink

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

5.4.1.2.14.2. Downlink

| | | | | |
|------------------|------------------|--|-----------------------------------|--|
| DPCH Downlink | RAB or SRB, TrCh | Streaming / unknown / 28.8 kbps / CS RAB, DCH | 3.4 kbps SRB for DCCH, DCH | |
| | RM attribute | TBD | TBD | |
| | TFCS size | 6 | | |
| | DTX position | Flexible | | |
| | Spreading factor | 64 | | |
| | DPCCH | Number of TFCI bits/slot | 8 | |
| | | Number of TPC bits/slot | 4 | |
| | | | 38 | |

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

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

5.4.1.2.15.1. Uplink

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

5.4.1.2.15.2. Downlink

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

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

5.4.1.2.16.1. Uplink

See 5.4.1.2.2.1.

5.4.1.2.16.2. Downlink

TBD

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

5.4.1.2.17.1. Uplink

See 5.4.1.2.2.1.

5.4.1.2.17.2. Downlink

TBD

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

5.4.1.2.18.1. Uplink

See 5.4.1.2..2.1.

5.4.1.2.18.2. Downlink

TBD

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

5.4.1.2.19.1. Uplink

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

5.4.1.2.19.2. Downlink

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

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

5.4.1.2.20.1. Uplink

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

5.4.1.2.20.2. Downlink

See 5.4.1.2.19.2.

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

5.4.1.2.21.1. Uplink

See 5.4.1.2.19.1.

5.4.1.2.21.2. Downlink

| | | | | |
|---------------------------|------------------|---------------------------|--|-----------------------------------|
| DPCH Downlink | RAB or SRB, TrCh | | Interactive or background / 64 kbps / PS RAB, DCH | 3.4 kbps SRB for DCCH, DCH |
| | RM attribute | | TBD | TBD |
| | TFCS size | | 8 | |
| | DTX position | | Flexible | |
| | Spreading factor | | 32 | |
| | DPCCH | Number of TFCI bits/slot | 8 | |
| | | Number of TPC bits/slot | 4 | |
| | | Number of Pilot bits/slot | 8 | |
| | DPDCH | Number of data bits/slot | 140 | |
| Number of data bits/frame | | 2100 | | |

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

5.4.1.2.22.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.22.2. Downlink

See 5.4.1.2.21.2.

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

5.4.1.2.23.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.23.2. Downlink

| | | | | |
|---------------------------|------------------|---------------------------|---|-----------------------------------|
| DPCH Downlink | RAB or SRB, TrCh | | Interactive or background / 128 kbps / PS RAB, DCH | 3.4 kbps SRB for DCCH, DCH |
| | RM attribute | | TBD | TBD |
| | TFCS size | | 10 | |
| | DTX position | | Flexible | |
| | Spreading factor | | 16 | |
| | DPCCH | Number of TFCI bits/slot | 8 | |
| | | Number of TPC bits/slot | 8 | |
| | | Number of Pilot bits/slot | 16 | |
| | DPDCH | Number of data bits/slot | 288 | |
| Number of data bits/frame | | 4320 | | |

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

5.4.1.2.24.1. Uplink

| | | | | |
|----------------|---|--|---|-----------------------------------|
| DPCH Uplink | RAB or SRB, TrCh | | Interactive or background / 128 kbps / PS RAB, DCH | 3.4 kbps SRB for DCCH, DCH |
| | RM attribute | | TBD | TBD |
| | TFCS size | | 10 | |
| | Min spreading factor | | 8 | |
| | Max number of DPDCH data bits/radio frame | | 4800 | |
| | Puncturing Limit | | 1 | |

5.4.1.2.24.2. Downlink

See 5.4.1.2.23.2.

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

5.4.1.2.25.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.25.2. Downlink

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

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

5.4.1.2.26.1. Uplink

See 5.4.1.2.24.1.

5.4.1.2.26.2. Downlink

See 5.4.1.2.25.2.

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

5.4.1.2.27.1. Uplink

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

5.4.1.2.27.2. Downlink

See 5.4.1.2.25.2.

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

+ UL:3.4 DL:3.4 kbps SRBs for DCCH

5.4.1.2.28.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.28.2. Downlink

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

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

5.4.1.2.29.1. Uplink

See 5.4.1.2.24.1.

5.4.1.2.29.2. Downlink

See 5.4.1.2.28.2.

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

5.4.1.2.30.1. Uplink

See 5.4.1.2.27.1.

5.4.1.2.30.2. Downlink

See 5.4.1.2.28.2.

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

5.4.1.2.31.1. Uplink

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

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

5.4.1.2.31.2. Downlink

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

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

5.4.1.2.32.1. Uplink

See 5.4.1.2.31.1.

5.4.1.2.32.2. Downlink

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

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

5.4.1.2.33.1. Uplink

| DPCH Uplink | RAB or SRB, TrCh | Conversational / speech / 12.2 kbps / CS RAB, DCH | Interactive or background / 64 kbps / PS RAB, DCH | 3.4 kbps SRBs for DCCH, DCH |
|-------------|------------------|---|---|-----------------------------|
| | | 44 | | |

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

5.4.1.2.33.2. Downlink

See 5.4.1.2.32.2.

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

5.4.1.2.34.1. Uplink

See 5.4.1.2.33.1.

5.4.1.2.34.2. Downlink

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

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

5.4.1.2.35.1. Uplink

See 5.4.1.2.33.1.

5.4.1.2.35.2. Downlink

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

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

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

5.4.1.2.36.1. Uplink

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

5.4.1.2.36.2. Downlink

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

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

5.4.1.2.37.1. Uplink

| DPCH Uplink | RAB or SRB, TrCh | Conversational / speech / 12.2 kbps / CS RAB, DCH | Streaming / 57.6 kbps / CS RAB, DCH | 3.4 kbps SRBs for DCCH, DCH |
|-------------|------------------|---|-------------------------------------|-----------------------------|
| | | 46 | | |

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

5.4.1.2.37.2. Downlink

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

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

5.4.1.2.38.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.38.2. Downlink

TBD

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

5.4.1.2.39.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.39.2. Downlink

TBD

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

5.4.1.2.40.1. Uplink

See 5.4.1.2.4.1.

5.4.1.2.40.2. Downlink

TBD

- 5.4.1.2.41. Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB**
 + **Conversational / unknown / UL:64 DL:64 kbps / CS RAB**
 + **UL:3.4 DL:3.4 kbps SRBs for DCCH**

5.4.1.2.41.1. Uplink

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

5.4.1.2.41.2. Downlink

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

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

5.4.1.2.42.1. Uplink

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

5.4.1.2.42.2. Downlink

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

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

5.4.1.2.43.1. Uplink

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

5.4.1.2.43.2. Downlink

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

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

5.4.1.2.44.1. Uplink

See 5.4.1.2.43.1.

5.4.1.2.44.2. Downlink

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

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

5.4.1.2.45.1. Uplink

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

5.4.1.2.45.2. Downlink

See 5.4.1.2.44.2

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

5.4.1.2.46.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.46.2. Downlink

TBD

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

5.4.1.2.47.1. Uplink

See 5.4.1.2.20.1.

5.4.1.2.47.2. Downlink

TBD

5.4.2. Combinations on PDSCH and DPCH

5.4.2.1. Transport channel parameters for RABs and signalling RBs

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

See 5.4.1.1.1.

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

See 5.4.1.1.22.

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

See 5.4.1.1.25.

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

See 5.4.1.1.29.

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

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

5.4.2.2.1.1. Uplink

See 5.4.1.2.20.1.

5.4.2.2.1.2. Downlink

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

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

5.4.2.2.2.1. Uplink

See 5.4.1.2.20.1.

5.4.2.2.2.2. Downlink

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

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

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

5.4.2.2.3.1. Uplink

See 5.4.1.2.33.1.

5.4.2.2.3.2. Downlink

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

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

5.4.2.2.4.1. Uplink

See 5.4.1.2.33.1.

5.4.2.2.4.2. Downlink

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

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

5.4.3. Combinations on SCCPCH

5.4.3.1. Stand-alone signalling RB for PCCH

5.4.3.1.1. Transport channel parameter

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

5.4.3.1.2. Physical channel parameters

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

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

5.4.3.2.1. Transport channel parameters

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

5.4.3.2.2. Physical channel parameters

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

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

5.4.3.3.1. Transport channel parameters

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

5.4.3.3.2. Physical channel parameters

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

5.4.4. Combinations on PRACH

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

5.4.4.1.1. Transport channel parameter

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

5.4.4.1.2. Physical channel parameters

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