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Technical Report

3rd Generation Partnership Project;

Technical Specification Group Radio Access Network;

Typical examples of Radio Access Bearers (RABs) and

Radio Bearers (RBs) supported by

Universal Terrestrial Radio Access (UTRA)

(Release 16)

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7.1.79a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD) [93](#__RefHeading___Toc438495391)

7.1.80 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [95](#__RefHeading___Toc438495392)

7.1.81 Streaming / unknown / UL:8 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [96](#__RefHeading___Toc438495393)

7.1.82 Streaming / unknown / UL:8 DL:32 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [98](#__RefHeading___Toc438495394)

7.1.83 Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [100](#__RefHeading___Toc438495395)

7.1.84 Interactive or background / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [102](#__RefHeading___Toc438495396)

7.1.85 Interactive or background / UL:64 DL:8 kbps / PS RAB + Interactive or Background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [103](#__RefHeading___Toc438495397)

7.1.86 Interactive or Background / UL:64 DL:128 kbps / PS RAB + Interactive or Background / UL:64 DL:128 kbps / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH [104](#__RefHeading___Toc438495398)

7.1.87 Interactive or Background / UL:64 DL:384 kbps / PS RAB + Interactive or Background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [105](#__RefHeading___Toc438495399)

7.1.88 Interactive or background / UL:128 DL:128 kbps / PS RAB + Interactive or Background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [106](#__RefHeading___Toc438495400)

7.1.89 Interactive or background / UL:128 DL:32 kbps / PS RAB + Interactive or Background / UL:128 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [108](#__RefHeading___Toc438495401)

7.1.90 Streaming / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [109](#__RefHeading___Toc438495402)

7.1.91 Streaming / unknown / UL:16 DL:32 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [109](#__RefHeading___Toc438495403)

7.1.92 Interactive or background / UL:16 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [109](#__RefHeading___Toc438495404)

7.1.93 Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [110](#__RefHeading___Toc438495405)

7.1.94 Interactive or background / UL:16 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [110](#__RefHeading___Toc438495406)

7.1.95 Conversational / speech / UL:12.2 DL:12.2 kbps + Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [110](#__RefHeading___Toc438495407)

7.1.96 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [112](#__RefHeading___Toc438495408)

7.1.97 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [114](#__RefHeading___Toc438495409)

7.1.98 Interactive or background / UL:32 DL:64 kbps / PS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH (L1 multiplexing) (FDD) [114](#__RefHeading___Toc438495410)

7.1.99 Interactive or background / UL:128 DL: 64k / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH [115](#__RefHeading___Toc438495411)

7.1.100 Interactive or background / UL:384 DL: 64k / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH [116](#__RefHeading___Toc438495412)

7.1.101 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [117](#__RefHeading___Toc438495413)

7.1.102 Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kb/s Signalling Radio Bearers for DCCH [118](#__RefHeading___Toc438495414)

7.1.103 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 64kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH [119](#__RefHeading___Toc438495415)

7.1.104 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 128kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH [120](#__RefHeading___Toc438495416)

7.1.105 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL: 384kbps / PS RAB + UL:3.4 DL:3.4 kbps Signalling Radio Bearers for DCCH [121](#__RefHeading___Toc438495417)

7.1.106 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [122](#__RefHeading___Toc438495418)

7.1.107 Conversational / speech / UL:(15.85 12.65 8.85 6.6) DL:(15.85 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [123](#__RefHeading___Toc438495419)

7.1.108 Conversational / speech / UL:(23.85 12.65 8.85 6.6) DL:(23.85 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [126](#__RefHeading___Toc438495420)

7.1.109 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [128](#__RefHeading___Toc438495421)

7.1.110 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [130](#__RefHeading___Toc438495422)

7.1.111 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [132](#__RefHeading___Toc438495423)

7.1.112 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [135](#__RefHeading___Toc438495424)

7.1.113 Conversational / speech / UL:12.2 DL:12.2 kbps + Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [137](#__RefHeading___Toc438495425)

7.1.113a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:64 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [138](#__RefHeading___Toc438495426)

7.1.114 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [139](#__RefHeading___Toc438495427)

7.1.115 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH [141](#__RefHeading___Toc438495428)

7.1.116 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [143](#__RefHeading___Toc438495429)

7.1.117 Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [144](#__RefHeading___Toc438495430)

7.1.118 Conversational / speech / UL:38.8 DL:38.8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-6 onwards] [144](#__RefHeading___Toc438495431)

7.1.119 Conversational / speech / UL:16.8 DL:16.8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-6 onwards] [148](#__RefHeading___Toc438495432)

7.1.120 Conversational / speech / UL: 40 DL: 40 kbps / PS RAB + Interactive or Background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [Rel-5 only] [153](#__RefHeading___Toc438495433)

7.1.121 Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:27.2 DL:27.2 kbps SRBs for DCCH [156](#__RefHeading___Toc438495434)

7.1.122 Conversational / speech / UL:39.6 DL:39.6 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-5] [157](#__RefHeading___Toc438495435)

7.1.123 Conversational / speech / UL:17.6 DL:17.6 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-5] [160](#__RefHeading___Toc438495436)

7.1.124 Conversational / speech / UL: 39.2 DL: 39.2 kbps / PS RAB + Interactive or Background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [165](#__RefHeading___Toc438495437)

7.1.125 Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [168](#__RefHeading___Toc438495438)

7.1.126 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH – Alternative [170](#__RefHeading___Toc438495439)

7.1.127 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [171](#__RefHeading___Toc438495440)

7.1.128 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [173](#__RefHeading___Toc438495441)

7.1.129 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [176](#__RefHeading___Toc438495442)

7.1.130 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [179](#__RefHeading___Toc438495443)

7.1.131 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH [181](#__RefHeading___Toc438495444)

7.1.132 Conversational / speech / UL: (12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH [183](#__RefHeading___Toc438495445)

7.1.132a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH [184](#__RefHeading___Toc438495446)

7.1.133 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:13.6 DL:13.6 kbps SRBs for DCCH [185](#__RefHeading___Toc438495447)

7.1.134 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH [186](#__RefHeading___Toc438495448)

7.1.135 Void [187](#__RefHeading___Toc438495449)

7.1.136 Void [187](#__RefHeading___Toc438495450)

7.1.137 Interactive or Background / UL:32 DL:64 kbps / PS RAB + Interactive or Background / UL:32 DL:64 kbps / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH [187](#__RefHeading___Toc438495451)

7.1.138 Interactive or background / UL:128 DL:384 kbps / PS RAB + Interactive or Background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [188](#__RefHeading___Toc438495452)

7.1.139 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [189](#__RefHeading___Toc438495453)

7.1.140 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [190](#__RefHeading___Toc438495454)

7.1.141 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [193](#__RefHeading___Toc438495455)

7.1.142 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB (20ms TTI) + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [196](#__RefHeading___Toc438495456)

7.1.143 Conversational / speech / UL:6.6 DL:6.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [198](#__RefHeading___Toc438495457)

7.1.144 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [200](#__RefHeading___Toc438495458)

7.1.145 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [203](#__RefHeading___Toc438495459)

7.1.145.1 Uplink [203](#__RefHeading___Toc438495460)

7.1.145.1.1 Transport channel parameters [203](#__RefHeading___Toc438495461)

7.1.145.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH [203](#__RefHeading___Toc438495462)

7.1.145.1.2 Physical channel parameters [204](#__RefHeading___Toc438495463)

7.1.145.2 Downlink [204](#__RefHeading___Toc438495464)

7.1.145.2.1 Transport channel parameters [204](#__RefHeading___Toc438495465)

7.1.145.2.2 Physical channel parameters [205](#__RefHeading___Toc438495466)

7.1.146 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [206](#__RefHeading___Toc438495467)

7.1.146.1 Uplink [206](#__RefHeading___Toc438495468)

7.1.146.1.1 Transport channel parameters [206](#__RefHeading___Toc438495469)

7.1.146.1.2 Physical channel parameters [207](#__RefHeading___Toc438495470)

7.1.146.2 Downlink [207](#__RefHeading___Toc438495471)

7.1.146.2.1 Transport channel parameters [207](#__RefHeading___Toc438495472)

7.1.146.2.2 Physical channel parameters [208](#__RefHeading___Toc438495473)

7.1.147 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [209](#__RefHeading___Toc438495474)

7.1.147.1 Uplink [209](#__RefHeading___Toc438495475)

7.1.147.1.1 Transport channel parameters [209](#__RefHeading___Toc438495476)

7.1.147.1.2 Physical channel parameters [210](#__RefHeading___Toc438495477)

7.1.147.2 Downlink [210](#__RefHeading___Toc438495478)

7.1.147.2.1 Transport channel parameters [210](#__RefHeading___Toc438495479)

7.1.147.2.2 Physical channel parameters [211](#__RefHeading___Toc438495480)

7.1.148 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [212](#__RefHeading___Toc438495481)

7.1.148.1 Uplink [212](#__RefHeading___Toc438495482)

7.1.148.1.1 Transport channel parameters [212](#__RefHeading___Toc438495483)

7.1.148.1.2 Physical channel parameters [213](#__RefHeading___Toc438495484)

7.1.148.2 Downlink [214](#__RefHeading___Toc438495485)

7.1.148.2.1 Transport channel parameters [214](#__RefHeading___Toc438495486)

7.1.149 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [215](#__RefHeading___Toc438495487)

7.1.149.1 Uplink [215](#__RefHeading___Toc438495488)

7.1.149.1.1 Transport channel parameters [215](#__RefHeading___Toc438495489)

7.1.149.2 Downlink [215](#__RefHeading___Toc438495490)

7.1.149.2.1 Transport channel parameters [215](#__RefHeading___Toc438495491)

7.1.149.2.2 Physical channel parameters [216](#__RefHeading___Toc438495492)

7.1.150 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [217](#__RefHeading___Toc438495493)

7.1.150.1 Uplink [217](#__RefHeading___Toc438495494)

7.1.150.1.1 Transport channel parameters [217](#__RefHeading___Toc438495495)

7.1.150.1.2 Physical channel parameters [217](#__RefHeading___Toc438495496)

7.1.150.2 Downlink [217](#__RefHeading___Toc438495497)

7.1.150.2.1 Transport channel parameters [217](#__RefHeading___Toc438495498)

7.1.150.2.2 Physical channel parameters [218](#__RefHeading___Toc438495499)

7.1.151 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [218](#__RefHeading___Toc438495500)

7.1.151.1 Uplink [218](#__RefHeading___Toc438495501)

7.1.151.1.1 Transport channel parameters [218](#__RefHeading___Toc438495502)

7.1.151.1.2 Physical channel parameters [218](#__RefHeading___Toc438495503)

7.1.151.2 Downlink [219](#__RefHeading___Toc438495504)

7.1.151.2.1 Transport channel parameters [219](#__RefHeading___Toc438495505)

7.1.151.2.2 Physical channel parameters [219](#__RefHeading___Toc438495506)

7.1.152 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [220](#__RefHeading___Toc438495507)

7.1.152.1 Uplink [220](#__RefHeading___Toc438495508)

7.1.152.1.1 Transport channel parameters [220](#__RefHeading___Toc438495509)

7.1.152.1.2 Physical channel parameters [220](#__RefHeading___Toc438495510)

7.1.152.2 Downlink [220](#__RefHeading___Toc438495511)

7.1.152.2.1 Transport channel parameters [220](#__RefHeading___Toc438495512)

7.1.152.2.2 Physical channel parameters [221](#__RefHeading___Toc438495513)

7.1.153 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [221](#__RefHeading___Toc438495514)

7.1.153.1 Uplink [221](#__RefHeading___Toc438495515)

7.1.153.1.1 Transport channel parameters [221](#__RefHeading___Toc438495516)

7.1.153.1.2 Physical channel parameters [222](#__RefHeading___Toc438495517)

7.1.153.2 Downlink [222](#__RefHeading___Toc438495518)

7.1.153.2.1 Transport channel parameters [222](#__RefHeading___Toc438495519)

7.1.153.2.2 Physical channel parameters [222](#__RefHeading___Toc438495520)

7.1.154 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [223](#__RefHeading___Toc438495521)

7.1.154.1 Uplink [223](#__RefHeading___Toc438495522)

7.1.154.1.1 Transport channel parameters [223](#__RefHeading___Toc438495523)

7.1.154.1.2 Physical channel parameters [223](#__RefHeading___Toc438495524)

7.1.154.2 Downlink [223](#__RefHeading___Toc438495525)

7.1.154.2.1 Transport channel parameters [223](#__RefHeading___Toc438495526)

7.1.154.2.2 Physical channel parameters [224](#__RefHeading___Toc438495527)

7.1.155 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [224](#__RefHeading___Toc438495528)

7.1.155.1 Uplink [224](#__RefHeading___Toc438495529)

7.1.155.1.1 Transport channel parameters [224](#__RefHeading___Toc438495530)

7.1.155.1.2 Physical channel parameters [225](#__RefHeading___Toc438495531)

7.1.155.2 Downlink [225](#__RefHeading___Toc438495532)

7.1.155.2.1 Transport channel parameters [225](#__RefHeading___Toc438495533)

7.1.155.2.2 Physical channel parameters [226](#__RefHeading___Toc438495534)

7.1.156 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [227](#__RefHeading___Toc438495535)

7.1.156.1 Uplink [227](#__RefHeading___Toc438495536)

7.1.156.1.1 Transport channel parameters [227](#__RefHeading___Toc438495537)

7.1.156.1.2 Physical channel parameters [227](#__RefHeading___Toc438495538)

7.1.156.2 Downlink [227](#__RefHeading___Toc438495539)

7.1.156.2.1 Transport channel parameters [227](#__RefHeading___Toc438495540)

7.1.156.2.2 Physical channel parameters [228](#__RefHeading___Toc438495541)

7.2 Combinations on S-CCPCH [228](#__RefHeading___Toc438495542)

7.2.1 Stand-alone signalling RB for PCCH [228](#__RefHeading___Toc438495543)

7.2.2 Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [228](#__RefHeading___Toc438495544)

7.2.3 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [228](#__RefHeading___Toc438495545)

7.2.4 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [229](#__RefHeading___Toc438495546)

7.2.5 16 kbps RB for CTCH + SRB for CCCH + SRB for BCCH [229](#__RefHeading___Toc438495547)

7.2.6 RB for CTCH + Interactive/Background 32 kbps PS RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [229](#__RefHeading___Toc438495548)

7.2.7 Interactive/Background 16 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [231](#__RefHeading___Toc438495549)

7.2.8 8 kbps RB for CTCH + SRB for CCCH + SRB for BCCH [232](#__RefHeading___Toc438495550)

7.2.9 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [233](#__RefHeading___Toc438495551)

7.2.10 258.4 kbps RB for MTCH with 40 ms TTI [235](#__RefHeading___Toc438495552)

7.2.11 129.2 kbps RB for MTCH with 40 ms TTI [237](#__RefHeading___Toc438495553)

7.2.12 129.2 kbps RB for MTCH with 80 ms TTI [238](#__RefHeading___Toc438495554)

7.2.13 64.6 kbps RB for MTCH with 80 ms TTI [240](#__RefHeading___Toc438495555)

7.2.14 64.8kbps RB for MTCH with 80 ms TTI (alternative config) [241](#__RefHeading___Toc438495556)

7.2.15 129.6 kbps RB for MTCH with 80 ms TTI (alternative config) [241](#__RefHeading___Toc438495557)

7.2.16 259.2 kbps RB for MTCH with 40 ms TTI (alternative config) [241](#__RefHeading___Toc438495558)

7.2.17 7.6 kbps signalling RB for MCCH [241](#__RefHeading___Toc438495559)

7.2.18 6.4 kbps SRB for MCCH [242](#__RefHeading___Toc438495560)

7.3 Combinations on PRACH [242](#__RefHeading___Toc438495561)

7.3.1 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH [242](#__RefHeading___Toc438495562)

7.3.2 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH [242](#__RefHeading___Toc438495563)

7.3.3 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH [243](#__RefHeading___Toc438495564)

7.3.4 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH [243](#__RefHeading___Toc438495565)

7.4 Radio Bearer and Radio Bearer Combinations on DPCH and HS-PDSCH [243](#__RefHeading___Toc438495566)

7.4.1 RB for Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [243](#__RefHeading___Toc438495567)

7.4.1b Void [244](#__RefHeading___Toc438495568)

7.4.2 RB for Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [244](#__RefHeading___Toc438495569)

7.4.3 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [244](#__RefHeading___Toc438495570)

7.4.3a RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [245](#__RefHeading___Toc438495571)

7.4.4 RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [246](#__RefHeading___Toc438495572)

7.4.4a RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [247](#__RefHeading___Toc438495573)

7.4.5 RB for Interactive or background / UL:384DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + Interactive or background / UL:384DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [247](#__RefHeading___Toc438495574)

7.4.5a RB for Interactive or background / UL:64DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + Interactive or background / UL:64DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [248](#__RefHeading___Toc438495575)

7.4.6 Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [249](#__RefHeading___Toc438495576)

7.4.7 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [249](#__RefHeading___Toc438495577)

7.4.7a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [250](#__RefHeading___Toc438495578)

7.4.8 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [251](#__RefHeading___Toc438495579)

7.4.8a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [252](#__RefHeading___Toc438495580)

7.4.9 Void [253](#__RefHeading___Toc438495581)

7.4.10 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [253](#__RefHeading___Toc438495582)

7.4.11 Void [254](#__RefHeading___Toc438495583)

7.4.12 RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [254](#__RefHeading___Toc438495584)

7.4.14 RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [256](#__RefHeading___Toc438495585)

7.4.15 RB for Streaming / unknown / UL:64 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [258](#__RefHeading___Toc438495586)

7.4.16 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [260](#__RefHeading___Toc438495587)

7.4.16a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [262](#__RefHeading___Toc438495588)

7.4.17 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:128 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [263](#__RefHeading___Toc438495589)

7.4.17a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:128 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [266](#__RefHeading___Toc438495590)

7.4.18 RB for Streaming / unknown / UL:64 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [266](#__RefHeading___Toc438495591)

7.4.19 RB for Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH [268](#__RefHeading___Toc438495592)

7.4.20 RB for Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [269](#__RefHeading___Toc438495593)

7.4.21 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [270](#__RefHeading___Toc438495594)

7.4.22 Conversational / unknown / UL:38.8 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [271](#__RefHeading___Toc438495595)

7.4.23 Conversational / unknown / UL:16.8 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [273](#__RefHeading___Toc438495596)

7.4.24 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [275](#__RefHeading___Toc438495597)

7.4.25 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [275](#__RefHeading___Toc438495598)

7.4.26 RB for Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:6.8 DL:6.8 kbps SRBs for DCCH [276](#__RefHeading___Toc438495599)

7.4.27 RB for Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:6.8 DL:6.8 kbps SRBs for DCCH [277](#__RefHeading___Toc438495600)

7.4.28 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or Background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + RB for Interactive or Background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH [278](#__RefHeading___Toc438495601)

7.4.29 RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [280](#__RefHeading___Toc438495602)

7.4.30 RB for Interactive or background / UL:16 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [281](#__RefHeading___Toc438495603)

7.4.31 RB for Streaming MBMS PTP / unkown / UL:16 DL:[max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [281](#__RefHeading___Toc438495604)

7.4.32 RB for Streaming MBMS PTP / unkown / UL:16 DL:[max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on UE category & RAB maximum bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on UE category & RAB maximum bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [282](#__RefHeading___Toc438495605)

7.4.33 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [283](#__RefHeading___Toc438495606)

7.4.33.1 Uplink [283](#__RefHeading___Toc438495607)

7.4.33.2 Downlink [283](#__RefHeading___Toc438495608)

7.4.33.2.1 Transport channel parameters [283](#__RefHeading___Toc438495609)

7.4.33.2.2 Physical channel parameters [283](#__RefHeading___Toc438495610)

7.4.34 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [284](#__RefHeading___Toc438495611)

7.4.34.1 Uplink [284](#__RefHeading___Toc438495612)

7.4.34.2 Downlink [284](#__RefHeading___Toc438495613)

7.4.34.2.1 Transport channel parameters [284](#__RefHeading___Toc438495614)

7.4.34.2.2 Physical channel parameters [284](#__RefHeading___Toc438495615)

7.4.35 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [284](#__RefHeading___Toc438495616)

7.4.35.1 Uplink [284](#__RefHeading___Toc438495617)

7.4.35.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB [284](#__RefHeading___Toc438495618)

7.4.35.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH [284](#__RefHeading___Toc438495619)

7.4.35.1.3 TFCS [285](#__RefHeading___Toc438495620)

7.4.35.1.4 Physical channel parameters [285](#__RefHeading___Toc438495621)

7.4.35.2 Downlink [285](#__RefHeading___Toc438495622)

7.4.35.2.1 Transport channel parameters [285](#__RefHeading___Toc438495623)

7.4.35.2.2 Physical channel parameters [285](#__RefHeading___Toc438495624)

7.4.36 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [286](#__RefHeading___Toc438495625)

7.4.36.1 Uplink [286](#__RefHeading___Toc438495626)

7.4.36.2 Downlink [286](#__RefHeading___Toc438495627)

7.4.36.2.1 Transport channel parameters [286](#__RefHeading___Toc438495628)

7.4.36.2.2 Physical channel parameters [286](#__RefHeading___Toc438495629)

7.4.37 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [286](#__RefHeading___Toc438495630)

7.4.37.1 Uplink [286](#__RefHeading___Toc438495631)

7.4.37.1.1 Transport channel parameters [286](#__RefHeading___Toc438495632)

7.4.37.1.1.4 TFCS [287](#__RefHeading___Toc438495633)

7.4.37.1.2 Physical channel parameters [287](#__RefHeading___Toc438495634)

7.4.37.2 Downlink [287](#__RefHeading___Toc438495635)

7.4.37.2.1 Transport channel parameters [287](#__RefHeading___Toc438495636)

7.4.37.2.2 Physical channel parameters [287](#__RefHeading___Toc438495637)

7.4.38 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [288](#__RefHeading___Toc438495638)

7.4.38.1 Uplink [288](#__RefHeading___Toc438495639)

7.4.38.1.1 Transport channel parameters [288](#__RefHeading___Toc438495640)

7.4.38.1.2 Physical channel parameters [288](#__RefHeading___Toc438495641)

7.4.38.2 Downlink [288](#__RefHeading___Toc438495642)

7.4.38.2.1 Transport channel parameters [288](#__RefHeading___Toc438495643)

7.4.38.2.2 Physical channel parameters [289](#__RefHeading___Toc438495644)

7.4.39 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [289](#__RefHeading___Toc438495645)

7.4.39.1 Uplink [289](#__RefHeading___Toc438495646)

7.4.39.1.1 Transport channel parameters [289](#__RefHeading___Toc438495647)

7.4.39.1.2 Physical channel parameters [290](#__RefHeading___Toc438495648)

7.4.39.2 Downlink [290](#__RefHeading___Toc438495649)

7.4.39.2.1 Transport channel parameters [290](#__RefHeading___Toc438495650)

7.4.39.2.2 Physical channel parameters [290](#__RefHeading___Toc438495651)

7.4.39.2.2.1 Physical channel parameters on DPCH [290](#__RefHeading___Toc438495652)

7.4.40 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [290](#__RefHeading___Toc438495653)

7.4.40.1 Uplink [290](#__RefHeading___Toc438495654)

7.4.40.1.1 Transport channel parameters [290](#__RefHeading___Toc438495655)

7.4.40.1.2 Physical channel parameters [291](#__RefHeading___Toc438495656)

7.4.40.2 Downlink [291](#__RefHeading___Toc438495657)

7.4.40.2.1 Transport channel parameters [291](#__RefHeading___Toc438495658)

7.4.40.2.2 Physical channel parameters [291](#__RefHeading___Toc438495659)

7.5 Radio Bearer and Radio Bearer Combinations on E-DPDCH and HS-PDSCH [292](#__RefHeading___Toc438495660)

7.5.1 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [292](#__RefHeading___Toc438495661)

7.5.2 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL on DCH [292](#__RefHeading___Toc438495662)

7.5.3 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [293](#__RefHeading___Toc438495663)

7.5.4 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [294](#__RefHeading___Toc438495664)

7.5.5 Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH [295](#__RefHeading___Toc438495665)

7.5.6 Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [295](#__RefHeading___Toc438495666)

7.5.7 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH + DL:0.15 kbps SRB#5 for DCCH [296](#__RefHeading___Toc438495667)

7.5.8 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [297](#__RefHeading___Toc438495668)

7.5.9 Conversational / speech / UL:(5.9, 4.75) DL:( 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [298](#__RefHeading___Toc438495669)

7.5.10 UL: [max bit rate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [299](#__RefHeading___Toc438495670)

7.5.11 RB for interactive or background / UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL: [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [300](#__RefHeading___Toc438495671)

7.5.12 RB for Conversational / unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [301](#__RefHeading___Toc438495672)

7.5.13 RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [302](#__RefHeading___Toc438495673)

7.5.14 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [303](#__RefHeading___Toc438495674)

7.5.14a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [304](#__RefHeading___Toc438495675)

7.5.15 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH + DL:0.15 kbps SRB#5 for DCCH [305](#__RefHeading___Toc438495676)

7.5.16 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [306](#__RefHeading___Toc438495677)

7.5.17 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [306](#__RefHeading___Toc438495678)

7.5.17a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [307](#__RefHeading___Toc438495679)

7.5.18 RB for Conversational / Speech UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [308](#__RefHeading___Toc438495680)

7.5.19 RB for Conversational / Speech UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH [309](#__RefHeading___Toc438495681)

7.5.20 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [310](#__RefHeading___Toc438495682)

7.5.21 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [311](#__RefHeading___Toc438495683)

7.5.22 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [312](#__RefHeading___Toc438495684)

7.5.23 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [313](#__RefHeading___Toc438495685)

7.5.23a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [314](#__RefHeading___Toc438495686)

7.5.24 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [315](#__RefHeading___Toc438495687)

7.5.25 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [316](#__RefHeading___Toc438495688)

7.5.26 UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH + DCH 3.4kbps [316](#__RefHeading___Toc438495689)

7.5.27 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:13.6 DL:13.6kbps SRBs for DCCH on DCH [318](#__RefHeading___Toc438495690)

7.5.28 Conversational / speech / UL: 12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [319](#__RefHeading___Toc438495691)

7.5.29 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [321](#__RefHeading___Toc438495692)

7.5.30 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [323](#__RefHeading___Toc438495693)

7.5.30a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [324](#__RefHeading___Toc438495694)

7.5.31 Conversational / speech / UL:(12.65, 8.85, 6.6) kbps DL: (12.65, 8.85, 6.6) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [326](#__RefHeading___Toc438495695)

7.5.32 Conversational / speech / UL:(23.85 12.65 8.85 6.6) DL:(23.85 12.65 8.85 6.6) kbps / CS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [327](#__RefHeading___Toc438495696)

7.5.33 Conversational / speech / UL:12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [329](#__RefHeading___Toc438495697)

7.5.34 Conversational / speech / UL:12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [330](#__RefHeading___Toc438495698)

7.5.35 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [331](#__RefHeading___Toc438495699)

7.5.35a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [332](#__RefHeading___Toc438495700)

7.5.36 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [333](#__RefHeading___Toc438495701)

7.5.36a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [334](#__RefHeading___Toc438495702)

7.5.37 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [335](#__RefHeading___Toc438495703)

7.5.38 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [336](#__RefHeading___Toc438495704)

7.5.39 Conversational / speech / UL:( 12.65 8.85 6.6) kbps DL: (12.65 8.85 6.6) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [338](#__RefHeading___Toc438495705)

7.5.40 Conversational / speech / UL:( 12.65 8.85 6.6) kbps DL: (12.65 8.85 6.6) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH [339](#__RefHeading___Toc438495706)

7.5.41 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [340](#__RefHeading___Toc438495707)

7.5.41.1 Uplink [340](#__RefHeading___Toc438495708)

7.5.41.1.1 Transport channel parameters [340](#__RefHeading___Toc438495709)

7.5.41.1.2 Physical channel parameters [340](#__RefHeading___Toc438495710)

7.5.41.2 Downlink [340](#__RefHeading___Toc438495711)

7.5.42 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [341](#__RefHeading___Toc438495712)

7.5.42.1 Uplink [341](#__RefHeading___Toc438495713)

7.5.42.1.1 Transport channel parameters [341](#__RefHeading___Toc438495714)

7.5.42.1.2 Physical channel parameters [341](#__RefHeading___Toc438495715)

7.5.42.2 Downlink [341](#__RefHeading___Toc438495716)

7.5.43 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [341](#__RefHeading___Toc438495717)

7.5.43.1 Uplink [341](#__RefHeading___Toc438495718)

7.5.43.1.1 Transport channel parameters [341](#__RefHeading___Toc438495719)

7.5.43.1.2 Physical channel parameters [342](#__RefHeading___Toc438495720)

7.5.43.2 Downlink [342](#__RefHeading___Toc438495721)

7.5.44 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH [342](#__RefHeading___Toc438495722)

7.5.44.1 Uplink [342](#__RefHeading___Toc438495723)

7.5.44.1.1 Transport channel parameters [342](#__RefHeading___Toc438495724)

7.5.44.1.2 Physical channel parameters [342](#__RefHeading___Toc438495725)

7.5.44.2 Downlink [342](#__RefHeading___Toc438495726)

7.6 Void [343](#__RefHeading___Toc438495727)

8 Examples of Radio Bearers and Signalling Radio Bearers for 3.84 Mcps TDD [343](#__RefHeading___Toc438495728)

8.1 Combinations on DPCH [343](#__RefHeading___Toc438495729)

8.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH [343](#__RefHeading___Toc438495730)

8.1.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH [343](#__RefHeading___Toc438495731)

8.1.3 Stand-aloneUL:13.6 DL:13.6 kbps SRBs for DCCH [343](#__RefHeading___Toc438495732)

8.1.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH [343](#__RefHeading___Toc438495733)

8.1.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 kbps SRBs for DCCH [343](#__RefHeading___Toc438495734)

8.1.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [343](#__RefHeading___Toc438495735)

8.1.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [344](#__RefHeading___Toc438495736)

8.1.8 Conversational / speech / UL:6.7 DL: 6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [344](#__RefHeading___Toc438495737)

8.1.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS rab + UL:3.4 DL:3.4 kbps SRBs for DCCH [344](#__RefHeading___Toc438495738)

8.1.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH [344](#__RefHeading___Toc438495739)

8.1.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH [344](#__RefHeading___Toc438495740)

8.1.12 Conversational / unknown / UL:28.8 DL:28.8kbps / CS RAB + UL:3.4 DL:3.4kbps SRBs for DCCH [344](#__RefHeading___Toc438495741)

8.1.13 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [344](#__RefHeading___Toc438495742)

8.1.14 Conversational / unknown / UL:32 DL: 32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495743)

8.1.15 Streaming / unknown / UL:14.4 DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495744)

8.1.16 Streaming / unknown / UL:28.8 DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495745)

8.1.17 Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495746)

8.1.18 Streaming / unknown / UL:0 DL: 64 kbps / CS or PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495747)

8.1.19 Streaming / unknown / UL: 64 DL:0 kbps / CS or PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495748)

8.1.20 Interactive or background / UL: 32 DL:8 kbps / PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH [345](#__RefHeading___Toc438495749)

8.1.21 Interactive or background / UL: 64 DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495750)

8.1.22 Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495751)

8.1.23 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495752)

8.1.24 Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495753)

8.1.25 Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495754)

8.1.26 Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495755)

8.1.27 Interactive or background / UL: 144 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [346](#__RefHeading___Toc438495756)

8.1.28 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495757)

8.1.29 Interactive or background / UL: 64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495758)

8.1.30 Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495759)

8.1.31 Interactive or background / UL:384 DL:384 kbps / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495760)

8.1.32 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495761)

8.1.33 Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [347](#__RefHeading___Toc438495762)

8.1.34 Interactive or background / UL: 384 DL:2048 kbps / PS RAB+UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495763)

8.1.35 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495764)

8.1.36 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495765)

8.1.37 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495766)

8.1.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495767)

8.1.39 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [348](#__RefHeading___Toc438495768)

8.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495769)

8.1.41 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495770)

8.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495771)

8.1.43 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495772)

8.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495773)

8.1.45 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [349](#__RefHeading___Toc438495774)

8.1.46 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [350](#__RefHeading___Toc438495775)

8.1.47 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [350](#__RefHeading___Toc438495776)

8.1.48 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [350](#__RefHeading___Toc438495777)

8.1.49 Interactive or background / UL:64 DL:128 kbps / PS RAB + streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4kbps SRBs for DCCH [350](#__RefHeading___Toc438495778)

8.1.50 Conversational / Speech UL:(12.2-7.95-5.9-4.75) & DL:(12.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH [350](#__RefHeading___Toc438495779)

8.1.51 Conversational / Speech UL:(10.2-6.7-5.9-4.75) & DL:(10.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH [350](#__RefHeading___Toc438495780)

8.1.52 Conversational / Speech UL:(7.4-6.7-5.9-4.75) & DL:(7.4-6.7-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH [351](#__RefHeading___Toc438495781)

8.1.53 Interactive or Background UL:8 & DL:8kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH [351](#__RefHeading___Toc438495782)

8.1.54 Interactive or Background UL:16 & DL:16kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH [351](#__RefHeading___Toc438495783)

8.1.55 Interactive or Background UL:32 & DL:32kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH [351](#__RefHeading___Toc438495784)

8.1.56 Interactive or Background UL:32 & DL:32kbps PS RAB (20msTTI) + UL:3.4 & DL:3.4 SRBs for DCCH [351](#__RefHeading___Toc438495785)

8.1.57 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [351](#__RefHeading___Toc438495786)

8.1.58 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:8 & DL:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495787)

8.1.59 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:32 & DL:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495788)

8.1.60 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495789)

8.1.61 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:0 & DL:0kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495790)

8.1.62 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:8 & DL:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495791)

8.1.63 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:16 & DL:16kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [352](#__RefHeading___Toc438495792)

8.1.64 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:32 & DL:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [353](#__RefHeading___Toc438495793)

8.1.65 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [353](#__RefHeading___Toc438495794)

8.1.66 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:64 & DL:128kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH [353](#__RefHeading___Toc438495795)

8.1.67 Conversational / speech / UL:(12.2 7.95 5.9 4.75) kbps DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [353](#__RefHeading___Toc438495796)

8.1.68 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [353](#__RefHeading___Toc438495797)

8.1.69 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [354](#__RefHeading___Toc438495798)

8.1.70 Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [354](#__RefHeading___Toc438495799)

8.1.71 Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [354](#__RefHeading___Toc438495800)

8.1.72 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. [354](#__RefHeading___Toc438495801)

8.1.72a Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH – Alternative [354](#__RefHeading___Toc438495802)

8.1.73 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [355](#__RefHeading___Toc438495803)

8.1.74 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (Multiframe) [356](#__RefHeading___Toc438495804)

8.1.75 Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [356](#__RefHeading___Toc438495805)

8.1.76 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [357](#__RefHeading___Toc438495806)

8.1.77 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [359](#__RefHeading___Toc438495807)

8.1.78 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [361](#__RefHeading___Toc438495808)

8.1.79 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [363](#__RefHeading___Toc438495809)

8.1.80 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [365](#__RefHeading___Toc438495810)

8.1.81 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [367](#__RefHeading___Toc438495811)

8.1.82 Streaming / unknown / UL:8 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [368](#__RefHeading___Toc438495812)

8.1.83 Streaming / unknown / UL:8 DL:32 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [370](#__RefHeading___Toc438495813)

8.1.84 Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [372](#__RefHeading___Toc438495814)

8.1.85 Interactive or background / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [374](#__RefHeading___Toc438495815)

8.1.86 Interactive or background / UL:64 DL:8 kbps / PS RAB + Interactive or Background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [376](#__RefHeading___Toc438495816)

8.1.87 Interactive or Background / UL:64 DL:128 kbps / PS RAB + Interactive or Background / UL:64 DL:128 kbps / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH [376](#__RefHeading___Toc438495817)

8.1.88 Interactive or Background / UL:64 DL:384 kbps / PS RAB + Interactive or Background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [377](#__RefHeading___Toc438495818)

8.1.89 Interactive or background / UL:128 DL:128 kbps / PS RAB + Interactive or Background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [378](#__RefHeading___Toc438495819)

8.1.90 Interactive or background / UL:128 DL:32 kbps / PS RAB + Interactive or Background / UL:128 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [380](#__RefHeading___Toc438495820)

8.1.91 Streaming / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [381](#__RefHeading___Toc438495821)

8.1.92 Streaming / unknown / UL:16 DL:32 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [381](#__RefHeading___Toc438495822)

8.1.93 Interactive or background / UL:16 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [381](#__RefHeading___Toc438495823)

8.1.94 Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [382](#__RefHeading___Toc438495824)

8.1.95 Interactive or background / UL:16 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [382](#__RefHeading___Toc438495825)

8.1.96 Conversational / speech / UL:12.2 DL:12.2 kbps + Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [382](#__RefHeading___Toc438495826)

8.1.97 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [384](#__RefHeading___Toc438495827)

8.2 Combinations on PDSCH, SCCH, PUSCH and PRACH [387](#__RefHeading___Toc438495828)

8.2.1 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH [387](#__RefHeading___Toc438495829)

8.2.2 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH [387](#__RefHeading___Toc438495830)

8.2.3 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH [387](#__RefHeading___Toc438495831)

8.2.4 Interactive or background / UL: 384 DL: 2048 kbps / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH [388](#__RefHeading___Toc438495832)

8.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH [388](#__RefHeading___Toc438495833)

8.3.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + interactive or background / UL:64 DL:256 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH [388](#__RefHeading___Toc438495834)

8.3.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH [388](#__RefHeading___Toc438495835)

8.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH [388](#__RefHeading___Toc438495836)

8.4 Combinations on SCCPCH [389](#__RefHeading___Toc438495837)

8.4.1 Stand – alone signalling RB for PCCH [389](#__RefHeading___Toc438495838)

8.4.2 Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [389](#__RefHeading___Toc438495839)

8.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [389](#__RefHeading___Toc438495840)

8.4.4 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [389](#__RefHeading___Toc438495841)

8.4.5 SRBs for CCCH + SRB for DCCH + SRB for BCCH [389](#__RefHeading___Toc438495842)

8.4.6 SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [389](#__RefHeading___Toc438495843)

8.4.7 RB for CTCH + SRB for CCCH + SRB for BCCH [389](#__RefHeading___Toc438495844)

8.5 Combinations on PRACH [390](#__RefHeading___Toc438495845)

8.5.1 SRB for CCCH + SRB for DCCH [390](#__RefHeading___Toc438495846)

8.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH [390](#__RefHeading___Toc438495847)

8.5.3 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH [390](#__RefHeading___Toc438495848)

9 Examples of Radio Bearers and Signalling Radio Bearers for 1.28 Mcps TDD [390](#__RefHeading___Toc438495849)

9.1 Combinations on DPCH [390](#__RefHeading___Toc438495850)

9.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH [390](#__RefHeading___Toc438495851)

9.1.1a Stand-alone UL: 1.7 DL: 1.7 kbps SRBs for DCCH (multiframe) [390](#__RefHeading___Toc438495852)

9.1.2 Stand-alone UL: 3.4 DL: 3.4 kbps SRBs for DCCH [390](#__RefHeading___Toc438495853)

9.1.3 Stand-aloneUL: 13.6 DL: 13.6 kbps SRBs for DCCH [390](#__RefHeading___Toc438495854)

9.1.4 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495855)

9.1.4a Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2 kbps, 7.95, 5.9, 4.75) / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495856)

9.1.5 Conversational / speech / UL: 10.2 DL: 10.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495857)

9.1.5a Conversational / speech / UL: (10.2, 6.7, 5.9, 4.75) DL: (10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495858)

9.1.6 Conversational / speech / UL: 7.95 DL: 7.95 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495859)

9.1.7 Conversational / speech / UL: 7.4 DL: 7.4 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495860)

9.1.7a Conversational / speech / UL: (7.4, 6.7, 5.9, 4.75) DL: (7.4, 6.7, 5.9, 4.75) kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [391](#__RefHeading___Toc438495861)

9.1.8 Conversational / speech / UL: 6.7 DL: 6.7 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [392](#__RefHeading___Toc438495862)

9.1.9 Conversational / speech / UL: 5.9 DL: 5.9 kbps / CS rab + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [392](#__RefHeading___Toc438495863)

9.1.10 Conversational / speech / UL: 5.15 DL: 5.15 kbps / CS RAB + UL: 1.7 DL: 1.7 kbps SRBs for DCCH [392](#__RefHeading___Toc438495864)

9.1.11 Conversational / speech / UL: 4.75 DL: 4.75 kbps / CS RAB + UL: 1.7 DL: 1.7 kbps SRBs for DCCH [392](#__RefHeading___Toc438495865)

9.1.12 Conversational / unknown / UL: 28.8 DL: 28.8 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [392](#__RefHeading___Toc438495866)

9.1.13 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [392](#__RefHeading___Toc438495867)

9.1.14 Conversational / unknown / UL: 32 DL: 32 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [392](#__RefHeading___Toc438495868)

9.1.15 Streaming / unknown / UL: 14.4 DL: 14.4 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [393](#__RefHeading___Toc438495869)

9.1.16 Streaming / unknown / UL: 28.8 DL: 28.8 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [393](#__RefHeading___Toc438495870)

9.1.17 Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [393](#__RefHeading___Toc438495871)

9.1.18 Void [393](#__RefHeading___Toc438495872)

9.1.19 Void [393](#__RefHeading___Toc438495873)

9.1.20 Void [393](#__RefHeading___Toc438495874)

9.1.21 Void [393](#__RefHeading___Toc438495875)

9.1.22 Void [393](#__RefHeading___Toc438495876)

9.1.23 Interactive or background / UL: 32 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [393](#__RefHeading___Toc438495877)

9.1.23a Interactive or background / UL: 8DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [393](#__RefHeading___Toc438495878)

9.1.23b Interactive or background / UL: 16 DL: 16 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [394](#__RefHeading___Toc438495879)

9.1.23c Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [394](#__RefHeading___Toc438495880)

9.1.23d Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH (20 ms TTI) [394](#__RefHeading___Toc438495881)

9.1.24 Void [394](#__RefHeading___Toc438495882)

9.1.25 Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [394](#__RefHeading___Toc438495883)

9.1.26 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [394](#__RefHeading___Toc438495884)

9.1.27 Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [394](#__RefHeading___Toc438495885)

9.1.28 Interactive or background / UL: 128 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495886)

9.1.29 Interactive or background / UL: 64 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495887)

9.1.30 Interactive or background / UL: 144 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495888)

9.1.31 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495889)

9.1.32 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495890)

9.1.33 Interactive or background / UL: 128 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495891)

9.1.34 Interactive or background / UL: 384 DL: 384 kbps / PS RAB +UL: 3.4 DL: 3.4 kbps SRBs for DCCH [395](#__RefHeading___Toc438495892)

9.1.35 Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [396](#__RefHeading___Toc438495893)

9.1.36 Void [396](#__RefHeading___Toc438495894)

9.1.37 Void [396](#__RefHeading___Toc438495895)

9.1.38 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [396](#__RefHeading___Toc438495896)

9.1.38a Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 0 DL: 0 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [396](#__RefHeading___Toc438495897)

9.1.38b Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [396](#__RefHeading___Toc438495898)

9.1.38c Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [396](#__RefHeading___Toc438495899)

9.1.38d Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495900)

9.1.38e Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 0 DL: 0 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495901)

9.1.38f Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495902)

9.1.38g Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 16 DL: 16 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495903)

9.1.38h Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495904)

9.1.38i Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [397](#__RefHeading___Toc438495905)

9.1.38j Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495906)

9.1.39 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495907)

9.1.40 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495908)

9.1.41 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495909)

9.1.42 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495910)

9.1.43 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [398](#__RefHeading___Toc438495911)

9.1.44 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 128 DL: 2048 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [399](#__RefHeading___Toc438495912)

9.1.45 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [399](#__RefHeading___Toc438495913)

9.1.46 Void [399](#__RefHeading___Toc438495914)

9.1.47 Void [399](#__RefHeading___Toc438495915)

9.1.48 Void [399](#__RefHeading___Toc438495916)

9.1.49 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [399](#__RefHeading___Toc438495917)

9.1.49a Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [399](#__RefHeading___Toc438495918)

9.1.50 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [399](#__RefHeading___Toc438495919)

9.1.51 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [400](#__RefHeading___Toc438495920)

9.1.51a Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [400](#__RefHeading___Toc438495921)

9.1.51b Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 16 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [400](#__RefHeading___Toc438495922)

9.1.52 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [400](#__RefHeading___Toc438495923)

9.1.53 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 128 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [400](#__RefHeading___Toc438495924)

9.1.54 Void [400](#__RefHeading___Toc438495925)

9.1.55 Void [401](#__RefHeading___Toc438495926)

9.1.56 Interactive or background / UL: 8 DL: 8 kbps / PS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [401](#__RefHeading___Toc438495927)

9.1.57 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [401](#__RefHeading___Toc438495928)

9.1.58 Streaming / Unknown / UL: 16 DL: 64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [401](#__RefHeading___Toc438495929)

9.1.59 Reserved for future use [401](#__RefHeading___Toc438495930)

9.1.60 Reserved for future use [401](#__RefHeading___Toc438495931)

9.1.61 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [401](#__RefHeading___Toc438495932)

9.2 Combinations on PDSCH, SCCH, PUSCH and PRACH [401](#__RefHeading___Toc438495933)

9.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH [401](#__RefHeading___Toc438495934)

9.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH [402](#__RefHeading___Toc438495935)

9.2.3 Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH [402](#__RefHeading___Toc438495936)

9.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH [402](#__RefHeading___Toc438495937)

9.3.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH [402](#__RefHeading___Toc438495938)

9.3.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH [402](#__RefHeading___Toc438495939)

9.3.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH [402](#__RefHeading___Toc438495940)

9.4 Combinations on SCCPCH [403](#__RefHeading___Toc438495941)

9.4.1 Stand – alone signalling RB for PCCH [403](#__RefHeading___Toc438495942)

9.4.2 Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [403](#__RefHeading___Toc438495943)

9.4.2a Interactive / Background 32 kbps PS RAB + Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH [403](#__RefHeading___Toc438495944)

9.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH [403](#__RefHeading___Toc438495945)

9.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [403](#__RefHeading___Toc438495946)

9.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH [403](#__RefHeading___Toc438495947)

9.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH [403](#__RefHeading___Toc438495948)

9.5 Combinations on PRACH [404](#__RefHeading___Toc438495949)

9.5.1 SRB for CCCH + SRB for DCCH [404](#__RefHeading___Toc438495950)

9.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH [404](#__RefHeading___Toc438495951)

9.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH [404](#__RefHeading___Toc438495952)

9.6 Radio Bearer and Radio Bearer Combinations on DPCH and HS-PDSCH [404](#__RefHeading___Toc438495953)

9.6.1 Interactive or background / UL:8 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [404](#__RefHeading___Toc438495954)

9.6.1a Interactive or background / UL:8 (multiframe) DL: [max bit rate depending on UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH (multiframe) (REL-5) [405](#__RefHeading___Toc438495955)

9.6.2 Interactive or background / UL:16 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [405](#__RefHeading___Toc438495956)

9.6.2a Interactive or background / UL:16(multiframe) DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5) [406](#__RefHeading___Toc438495957)

9.6.3 Interactive or background / UL:32 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [407](#__RefHeading___Toc438495958)

9.6.3a Interactive or background / UL:32(multiframe) DL: [max bit rate depending on UE category] / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5) [407](#__RefHeading___Toc438495959)

9.6.4 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [408](#__RefHeading___Toc438495960)

9.6.5 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [408](#__RefHeading___Toc438495961)

9.6.6 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [409](#__RefHeading___Toc438495962)

9.6.7 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [410](#__RefHeading___Toc438495963)

9.6.8 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5) [410](#__RefHeading___Toc438495964)

A.1 Common characteristics of scenarios [413](#__RefHeading___Toc438495965)

A.1.1 RTP and RTCP streams [413](#__RefHeading___Toc438495966)

A.1.2 Signalling stream [414](#__RefHeading___Toc438495967)

A.1.3 Data stream [414](#__RefHeading___Toc438495968)

A.2 Scenarios [414](#__RefHeading___Toc438495969)

A.2.1 Speech [414](#__RefHeading___Toc438495970)

A.2.2 Audio [415](#__RefHeading___Toc438495971)

A.2.3 Video [415](#__RefHeading___Toc438495972)

A.2.4 Text [415](#__RefHeading___Toc438495973)

A.2.5 Speech and video [415](#__RefHeading___Toc438495974)

A.2.6 Audio and video [415](#__RefHeading___Toc438495975)

A.2.7 Video, audio, or speech with text [415](#__RefHeading___Toc438495976)

Annex B: Mapping of service scenarios to Radio Access Bearers [416](#__RefHeading___Toc438495977)

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# Foreword

This Technical Report (TR) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

# 1 Scope

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

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

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

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

# 2 References

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

* References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.
* For a specific reference, subsequent revisions do not apply.
* For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

# 3 Abbreviations and Terms

## 3.1 Abbreviations

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

DL Downlink

EVS Enhanced Voice Services

HC Header Compression

IETF Internet Engineering Task Force

I/B Interactive / Background

IP Internet Protocol

kbps kilo-bits per second

RAB Radio Access Bearer

RB Radio Bearer

RNC Radio Network Controller

ROHC Robust Header Compression

RT Real-time

RTP Real-time Transport Protocol

RTCP Real-time Transport Control Protocol

RTSP Real-time Streaming Protocol

SIP Session Initiation Protocol

SRB Signalling Radio Bearer

TCP Transmission Control Protocol

UDP User Datagram Protocol

UL Uplink

## 3.2 Terms

**Bearer** Common term used to refer to RAB, RB, and/or SRB, when there is no need to distinguish between these terms.

**Radio Access Bearer** Bearer between UE and CN.

**Radio Bearer** User plane bearer on RAN level between RNC/NodeB and UE.

**Signalling Radio Bearer** RAN level bearer for RRC and NAS signalling between RNC and UE. User plane signalling bearer (e.g., the bearer for SIP signalling) is not SRB, but RB.

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

For the Radio Access Bearers mapped on HS-PDSCH in the downlink, or E-PDCH in the uplink, the terminology was enhanced so that the above mentioned terms are used correctly in the document except for subclauses 7.1, 7.2, 7.3 and the complete clauses 8 and 9.

# 4 QoS Architecture and RAB attributes

From a user point-of-view services are considered end-to-end, this means from a Terminal Equipment (TE) to another TE. An End-to-End Service may have a certain Quality of Service (QoS) which is provided for the user through the different networks. In UMTS, it is the UMTS Bearer Service that provides the requested QoS through the use of different QoS classes as defined in [2].

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



Figure 4.1: UMTS QoS Architecture

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

- Traffic class;

- SSD;

- Maximum bit rate;

- Residual BER.

The Traffic classes are explained in table 4-1. The Maximum bit rate has been considered at RLC layer and Physical Layer for the acknowledged and unacknowledged modes respectively. The Residual BER is understood as BER at RLC layer and Transport BLER for the acknowledged and unacknowledged modes respectively.

Table 4-1: Traffic classes

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

# 5 List of RABs and SRBs

The following tables provide examples of Radio Access Bearers (RABs) which can be realised by various Radio Bearers (RBs) as defined in clauses 7 and 8. The data rate given for each RAB is the maximum data rate that can be supported by that RAB in case of non real-time RABs. For real-time RABs the given datarate are the guaranteed and maximum bit rates.

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

Table 5.1: Void

## 5.1 Interactive or background class Radio Access Bearers (PS domain)

The following table lists typical maximum RAB data rates independently for uplink and downlink. These maximum bit rates are part of the "RAB parameters" received by the RNC in the RANAP: RAB ASSIGNMENT messages and must be mandatorily provided from the CN (SGSN) to the UTRAN (RNC). Any combination of the listed example data rates is possible.

Table 5.1-1: Interactive or Background / UL: [m] kbps DL: [m] kbps / PS RAB

|  |  |
| --- | --- |
| Max UL bitrate [m] kbps | Max DL bitrate [m] kbps |
| 0  8  16  24  32  64  128  144  256  384  512  1024  2048  3072  4096 | 0  8  16  24  32  64  128  144  256  384  512  1024  2048  3072  4096  6144  7168  8192  10240  12288  14336 |
|
|
|
|

## 5.2 Streaming class Radio Access Bearers

### 5.2.1 CS domain

The following table lists typical guaranteed and maximum RAB data rates independently for uplink and downlink which can be used by CS streaming applications for example. These guranteed and maximum bitrates are part of the "RAB parameters" received by the RNC in the RANAP: RAB ASSIGNMENT messages and must be mandatorily provided from the CN (SGSN) to the UTRAN (RNC) for the streaming traffic class. Any combination of the listed example datarates is possible. It should be noted that the requested maximum bit rate should always be equal to the requested guaranteed bit rate for a given connection.

Table 5.2.1-1: Streaming / unknown / UL: [g] [m] kbps DL: [g] [m] kbps / CS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Guaranteed UL bitrate [g] kbps for streaming | Max UL bitrate [m] kbps for streaming | Guaranteed DL bitrate [g] kbps for streaming | Max DL bitrate [m] kbps for streaming |
| 0  14.4  28.8  57.6  64 | 0  14.4  28.8  57.6  64 | 0  14.4  28.8  57.6  64 | 0  14.4  28.8  57.6  64 |
| NOTE: The requested max. bit rate shall always be equal to the requested guaranteed bit rate. | | | |

### 5.2.2 PS domain

The following table lists typical guaranteed and maximum RAB data rates independently for uplink and downlink which can be used by PS streaming applications for example. These guranteed and maximum bit rates are part of the "RAB parameters" received by the RNC in the RANAP: RAB ASSIGNMENT messages and must be mandatorily provided from the CN (SGSN) to the UTRAN (RNC) for the streaming traffic class. Any combination of the listed example data rates is possible. It should be noted that the requested maximum bit rate should always be equal or higher than the requested guaranteed bit rate for a given connection.

Table 5.2.2-1: Streaming / unknown / UL: [g] [m] kbps DL: [g] [m] kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Guaranteed UL bitrate [g] kbps for streaming | Max UL bitrate [m] kbps for streaming | Guaranteed DL bitrate [g] kbps for streaming | Max DL bitrate [m] kbps for streaming |
| 0  8  16  32  64  128  256  384 | 0  8  16  32  64  128  256  384 | 0  8  16  32  64  128  256  384  512  1024 | 0  8  16  32  64  128  256  384  512  1024  2048  3072  4096  6144  7168  8192  10240  12288  14336 |
|
|
|
|
| NOTE: The requested maximum bit rate shall always be equal or higher than the requested guaranteed bit rate. | | | |

## 5.3 Conversational class Radio Access Bearers

### 5.3.1 CS domain

Table 5.3.1-1: Conversational / speech / UL: [Y] kbps DL: [Y] kbps / CS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for CS voice | DL [Y] kbps for CS voice |
| 4.75  5.15  5.9  6.7  7.4  7.95  10.2  12.2 | 4.75  5.15  5.9  6.7  7.4  7.95  10.2  12.2 |

NOTE: It is understood that for speech service the AMR mode may be operated asymmetrically for the uplink and downlink. Multirate AMR can apply a set of UL and DL datarate out of the entire set of NB-AMR rates, where the set is the same for UL and DL, while the RAB configuration is always set up symmetrically (e.g. same rates in the UL and DL).

Table 5.3.1-2: Conversational / speech / UL: [Y] kbps DL: [Y] kbps / CS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for CS voice (WB-AMR) | DL [Y] kbps for CS voice (WB-AMR) |
| 6.60  8.85  12.65  14.25  15.85  18.25  19.25  23.05  23.85 | 6.60  8.85  12.65  14.25  15.85  18.25  19.25  23.05  23.85 |

NOTE: It is understood that for speech service the AMR mode may be operated asymmetrically for the uplink and downlink. Multirate AMR can apply a set of UL and DL datarate out of the entire set of WB-AMR rates, where the set is the same for UL and DL, while the RAB configuration is always set up symmetrically (e.g. same rates in the UL and DL).

Table 5.3.1-3: Conversational / unknown / UL: [Y] kbps DL: [Y] kbps / CS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for CS video or data | DL [Y] kbps for CS video or data |
| 28.8  32  64 | 28.8  32  64 |
| NOTE: The data rates selected must be symmetrically for the uplink and downlink. | |

Table 5.3.1-4: Conversational / speech / UL: [Y] kbps DL: [Y] kbps / CS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for CS voice (EVS) | DL [Y] kbps for CS voice (EVS) |
| 5.9  6.60  7.2  8  8.85  9.6  12.65  13.2  16.4  24.4 | 5.9  6.60  7.2  8  8.85  9.6  12.65  13.2  16.4  24.4 |

NOTE: It is understood that for speech service the EVS mode may be operated asymmetrically for the uplink and downlink. EVS can apply a set of UL and DL datarate out of the entire set of EVS rates, where the set is the same for UL and DL, while the RAB configuration is always set up symmetrically (e.g. same rates in the UL and DL).

### 5.3.2 PS domain

Table 5.3.2-1: Conversational / speech / UL: [Y] kbps DL: [Y] kbps / PS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for PS voice | DL [Y] kbps for PS voice |
| 16.8  17.6  27.6  38.8  39.2  39.6  40  42.8 | 16.8  17.6  27.6  38.8  39.2  39.6  40  42.8 |

Table 5.3.2-2: Conversational / unknown / UL: [Y] kbps DL: [Y] kbps / PS RAB

|  |  |
| --- | --- |
| UL [Y] kbps for PS voice | DL [Y] kbps for PS voice |
| 8  16 | 8  16 |

## 5.4 Signalling Radio Bearers (Control Plane)

Table 5.4-1 provides examples of Signalling Radio Bearers (SRBs) which can use configurations as defined in clauses 7, 8 and 9.

Table 5.4-1: Signalling Radio Bearers (SRBs)

|  |  |  |  |
| --- | --- | --- | --- |
| # | Maximum rate, kbps | Logical channel | PhyCh onto which SRBs are mapped |
| 1 | UL:1.7 DL:1.7 | DCCH | DPCH |
| 2 | UL:3.4 DL:3.4 | DCCH | DPCH |
| 3 | UL:13.6 DL:13.6 | DCCH | DPCH |
| 4 | DL:27.2 (alt. 40.8) | DCCH | SCCPCH |
| 5 | UL:16.6 | CCCH | PRACH |
| 6 | DL:30.4 (alt. 45.6) | CCCH | SCCPCH |
| 7 | DL:33.2 (alt. 49.8) | BCCH: | SCCPCH |
| 8 | DL:24 (alt. 6.4) | PCCH | SCCPCH |
| 9 | UL:16.8 (TDD) | SHCCH | PRACH |
| 10 | UL:16.8 (TDD) | SHCCH | PRACH or PUSCH |
| 11 | DL:16 (TDD) | SHCCH | SCCPCH |
| 12 | DL:16 (TDD) | SHCCH | SCCPCH or PUSCH |
| 13 | DL: 0.15 | DCCH | DPCH |
| 14 | UL:27.2 DL:27.2 | DCCH | DPCH |
| 15 | UL:6.8 DL:6.8 | DCCH | DPCH |

# 6 Combinations of RABs

Any combination of the listed RABs in clause 5 is possible. Based on the selected RAB or RAB combination, the Radio Ressource Management (RRM) inside the RNC selects appropriate Radio Bearers (RB) from clauses 7, 8 or 9.

For a valid configuration the Signalling Radio Bearer listed in subclause 5.4. is existing alone or it is combinined with one or multiple RABs of subclause 5.1, 5.2, 5.3. Configuration limitations are defined in clause 5.

# 7 Examples of Radio Bearers and Signalling Radio Bearers for FDD

## 7.1 Combinations on DPCH

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

See subclause 6.10.2.4.1.1 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.2 of [1].

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

This is supported in Release '99.

### 7.1.2a Stand-alone UL:6.8 DL:6.8 kbps SRBs for DCCH

7.1.2a.1 Uplink

7.1.2a.1.1 Transport channel parameters

7.1.2a.1.1.1 Transport channel parameters for UL:6.8 kbps SRBs for DCCH

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 | | 6800 | 6400 | 6400 | 6400 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) | | | |
| TF1, bits | 1x148 | | | |
| TTI, ms | | 20 | | | |
| 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 | | 258 | | | |

7.1.2a.1.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 2 |
| TFCS | SRBs for DCCH = TF0, TF1 |

7.1.2a.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 128 |
| Max number of DPDCH data bits/radio frame | 300 |
| Puncturing Limit | 1 |

7.1.2a.2 Downlink

7.1.2a.2.1 Transport channel parameters

7.1.2a.2.1.1 Transport channel parameters for DL:6.8 kbps SRBs for DCCH

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 | | 6 800 | 6 400 | 6 400 | 6 400 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) (note) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) (note) | | | |
| TF1, bits | 1x148 | | | |
| TTI, ms | | 20 | | | |
| Coding type | | CC 1/3 | | | |
| CRC, bit | | 16 | | | |
| Max number of bits/TTI before rate matching | | 516 | | | |
| RM attribute | | 155 to 230 | | | |
| NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE. | | | | | | |

7.1.2a.2.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 2 |
| TFCS | SRBs for DCCH = TF0, TF1 |

7.1.2a.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | 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 |

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.3 of [1].

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

This is supported in Release '99.

### 7.1.3a Stand-alone UL:27.2 DL:27.2 kbps SRBs for DCCH

7.1.3a.1 Uplink

7.1.3a.1.1 Transport channel parameters

7.1.3a.1.1.1 Transport channel parameters for UL:27.2 kbps SRBs for DCCH

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | **SRB#1** | **SRB#2** | **SRB#3** | **SRB#4** |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) | | | |
| TF1, bits | 1x148 | | | |
| TF2, bits | 2x148 | | | |
| TTI, ms | | 10 | | | |
| 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 | | 1008 | | | |
| RM attribute | | 155 to 185 | | | |

7.1.3a.1.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 3 |
| TFCS | SRBs for DCCH = TF0, TF1, TF2 |

7.1.3a.1.2 Physical channel parameters

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

7.1.3a.2 Downlink

7.1.3a.2.1 Transport channel parameters

7.1.3a.2.1.1 Transport channel parameters for DL:27.2 kbps SRBs for DCCH

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | **SRB#1** | **SRB#2** | **SRB#3** | **SRB#4** |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) (note) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) (note) | | | |
| TF1, bits | 1x148 | | | |
| TF2, bits | 2x148 | | | |
| TTI, ms | | 10 | | | |
| Coding type | | CC 1/3 | | | |
| CRC, bit | | 16 | | | |
| Max number of bits/TTI before rate matching | | 1008 | | | |
| RM attribute | | 155 to 230 | | | |
| NOTE: alternative parameters enable the measurement "transport channel BLER" in the UE. | | | | | | |

7.1.3a.2.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 3 |
| TFCS | SRBs for DCCH = TF0, TF1, TF2 |

7.1.3a.2.2 Physical channel parameters

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

The minimum UE classes supporting this combination are UL: 12 kbps plus support for 'Maximum number of DPDCH bits transmitted per 10 ms' = 1200, DL: 12 kbps.

This is supported in Release '99.

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

See subclause 6.10.2.4.1.4 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.4a of [1].

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

This is supported in Release '99.

### 7.1.5a Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.5a.1 Uplink

7.1.5a.1.1 Transport channel parameters

7.1.5a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.5a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.5a.1.1.3 TFCS

See subclause 6.10.2.4.1.4a.1.1.3 of [1].

7.1.5a.1.2 Physical channel parameters

See subclause 6.10.2.4.1.4a.1.2 of [1].

7.1.5a.2 Downlink

7.1.5a.2.1 Transport channel parameters

7.1.5a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.5a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.5a.2.1.3 TFCS

See subclause 6.10.2.4.1.4a.2.1.3 of [1].

7.1.5a.2.2 Physical channel parameters

See subclause 6.10.2.4.1.4a.2.2 of [1].

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

See subclause 6.10.2.4.1.5 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.5a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.6 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.7 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.7a of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.8 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.9 of [1].

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

This is supported in Release '99.

### 7.1.12a Conversational / speech / UL:(5.9, 4.75) DL:(5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.12a.1 Uplink

7.1.12a.1.1 Transport channel parameters

7.1.12a.1.1.1 Transport channel parameters for Conversational / speech / UL:(5.9, 4.75) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB subflow #1** | **RAB subflow #2** | **RAB subflow #3** |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 39, 42, 55 (alt. 0, 39, 42, 55) | 53, 63 | 60 |
| Max data rate, bps | | 5900 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 39, 42, 55 (alt. 0, 39, 42 55) | 53, 63 | 60 |
| TFS | TF0, bits | 0x55 (alt. 1x0) (note) | 0x63 | 0x60 |
| TF1, bits | 1x39 | 1x53 | N/A |
| TF2, bits | 1x42 | 1x63 | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 225 | 213 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 113 | 107 | 0 |
| RM attribute | | 180-220 | 170-210 | 215-256 |
| NOTE: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212). | | | | | |

7.1.12a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.12a.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF3, TF2, TF0, TF0)  (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1), (TF3, TF2, TF0, TF1) |

7.1.12a.1.2 Physical channel parameters

See subclause 6.10.2.4.1.9.1.2 of [1].

7.1.12a.2 Downlink

7.1.12a.2.1 Transport channel parameters

7.1.12a.2.1.1 Transport channel parameters for Conversational / speech / DL:(5.9, 4.75) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB subflow #1** | **RAB subflow #2** | **RAB subflow #3** |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 39, 42, 55 | 53, 63 | 60 |
| Max data rate, bps | | 5900 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 39, 42, 55 | 53, 63 | 60 |
| TFS (note 1) | TF0, bits | 1x0 (note 2) | 0x63 | 0x60 |
| TF1, bits | 1x39 | 1x53 | N/A |
| TF2, bits | 1x42 | 1x63 | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | 0 |
| Max number of bits/TTI after channel coding | | 225 | 213 | 0 |
| RM attribute | | 180-220 | 170-210 | 215-256 |
| NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see subclause 4.3 in TS 25.212).  NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212). | | | | | |

7.1.12a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.12a.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 6 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF0, TF0), (TF3, TF2, TF0, TF0)  (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF0, TF1), (TF3, TF2, TF0, TF1) |

7.1.12a.2.2 Physical channel parameters

See subclause 6.10.2.4.1.9.2.2 of [1].

### 7.1.12b Conversational / speech / UL:5.9 DL:5.9 (SF=128) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.12b.1 Uplink

See subclause 6.10.2.4.1.9.1 of [1].

7.1.12b.2 Downlink

7.1.12b.2.1 Transport channel parameters

See subclause 6.10.2.4.1.9.2.1 of [1].

7.1.12b.2.2 Physical channel parameters

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

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

See subclause 6.10.2.4.1.10 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.11 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.12 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.13 of [1].

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

This is supported in Release '99.

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

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

This is supported in Release 5.

7.1.16a.1 Uplink

7.1.16a.1.1 Transport channel parameters

7.1.16a.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | | RAB subflow #2  (note) | | RAB subflow #3 (note) | |  |
| RLC | Logical channel type | | | DTCH | | | | | |
| RLC mode | | | TM | | TM | | TM | |
| Payload sizes, bit | | | 640 | | 60 | | 60 | |
| Max data rate, bps | | | 64 000 | | | | | |
| TrD PDU header, bit | | | 0 | | | | | |
| MAC | MAC header, bit | | | 0 | | | | | |
| MAC multiplexing | | | N/A | | | | | |
| Layer 1 | TrCH type | | | DCH | | DCH | | DCH | |
| TB sizes, bit | | | 640 | | 60 | | 60 | |
| TFS | TF0, bits | | 0x640 | | 0x60 | | 0x60 | |
| TF1, bits | | 2x640(alt. 4x640) | | N/A | | N/A | |
| TTI, ms | | | 20(alt. 40) | | 20(alt. 40) | | 20(alt. 40) | |
| Coding type | | | TC | | TC | | TC | |
| CRC, bit | | | 16 | | N/A | | N/A | |
| Max number of bits/TTI after channel coding | | | 3 948(alt. 7 884) | | 0 | | 0 | |
| Uplink: Max number of bits/radio frame before rate matching | | | 1 974(alt. 1 971) | | 0 | | 0 | |
| RM attribute | | | 150 to 195 | | 256 | | 256 | |
| NOTE: RAB subflow #2 and RAB subflow #3 do not exist in Iu interface. UTRAN establishes this additional "dummy" subflows when the RAB is assigned. | | | | | | | | |  |

7.1.16a.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.16a.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 4 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow #3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1) |

7.1.16a.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2 400 |
| Puncturing Limit | 0.88 |

7.1.16a.2 Downlink

7.1.16a.2.1 Transport channel parameters

7.1.16a.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | | RAB subflow #2  (note) | RAB subflow #3 (note) |
| RLC | Logical channel type | | DTCH | | | |
| RLC mode | | TM | | TM | TM |
| Payload sizes, bit | | 640 | | 60 | 60 |
| Max data rate, bps | | 64 000 | | | |
| TrD PDU header, bit | | 0 | | | |
| MAC | MAC header, bit | | 0 | | | |
| MAC multiplexing | | N/A | | | |
| Layer 1 | TrCH type | | DCH | | DCH | DCH |
| TB sizes, bit | | 640 | | 60 | 60 |
| TFS | TF0, bits | 0x640 | | 0x60 | 0x60 |
| TF1, bits | 2x640(alt. 4x640) | | N/A | N/A |
| TTI, ms | | 20(alt. 40) | | 20(alt. 40) | 20(alt. 40) |
| Coding type | | TC | | TC | TC |
| CRC, bit | | 16 | | N/A | N/A |
| Max number of bits/TTI after channel coding | | 3 948(alt. 7 884) | | 0 | 0 |
| RM attribute | | | 150 to 195 | 256 | 256 |
| NOTE: RAB subflow #2 and RAB subflow #3 do not exist in Iu interface. UTRAN establishes this additional "dummy" subflows when the RAB is assigned. | | | | | | |

7.1.16a.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.16a.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 4 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow #3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1) |

7.1.16a.2.2 Physical channel parameters

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

### 7.1.16b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH+ DL:0.15 kbps SRB#5 for DCCH

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

This is supported in Release 5.

7.1.16b.1 Uplink

7.1.16b.1.1 Transport channel parameters

7.1.16b.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See subclause 7.1.16a.1.1.1

7.1.16b.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.16b.1.1.3 TFCS

See subclause 7.1.16a.1.1.1

7.1.16b.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2 400 |
| Puncturing Limit | 0.88 |

7.1.16b.2 Downlink

7.1.16b.2.1 Transport channel parameters

7.1.16b.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See subclause 7.1.16a.2.1.1

7.1.16b.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.16b.2.1.3 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.16b.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 4 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow #3, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0) |

7.1.16b.2.2 Physical channel parameters

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

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

See subclause 6.10.2.4.1.14 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.15 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.16 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.17 of [1].

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

This is supported in Release '99.

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

7.1.21.1 Uplink

7.1.21.1.1 Transport channel parameters

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

N/A

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

6.10.2.4.1.18.1.1.3 TFCS

See subclause 6.10.2.4.1.2.1.1.2 of [1].

7.1.21.1.2 Physical channel parameters

See subclause 6.10.2.4.1.2.1.2 of [1].

7.1.21.2 Downlink

7.1.21.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.21.2.1.3 TFCS

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

7.1.21.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.22.1 Uplink

7.1.22.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.22.1.1.3 TFCS

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

7.1.22.1.2 Physical channel parameters

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

7.1.22.2 Downlink

7.1.22.2.1 Transport channel parameters

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

N/A.

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.22.2.1.3 TFCS

See subclause 6.10.2.4.1.2.2.1.2 of [1].

7.1.22.2.2 Physical channel parameters

See subclause 6.10.2.4.1.2.2.2 of [1].

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

This is supported in Release '99.

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

7.1.23.1 Uplink

See subclause 6.10.2.4.1.23.1 of [1].

7.1.23.2 Downlink

7.1.23.2.1 Transport channel parameters

See subclause 6.10.2.4.1.23.2.1 of [1].

7.1.23.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.24.1 Uplink

See subclause 6.10.2.4.1.23a.1 of [1].

7.1.24.2 Downlink

7.1.24.2.1 Transport channel parameters

See subclause 6.10.2.4.1.23a.2.1 of [1].

7.1.24.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.25.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1]

7.1.25.2 Downlink

7.1.25.2.1 Transport channel parameters

See subclause 6.10.2.4.1.23b.2.1 of [1].

7.1.25.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.26.1 Uplink

See subclause 6.10.2.4.1.23c.1 of [1].

7.1.26.2 Downlink

7.1.26.2.1 Transport channel parameters

See subclause 6.10.2.4.1.23c.2.1 of [1].

7.1.26.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.27.1 Uplink

See subclause 6.10.2.4.1.23d.1 of [1].

7.1.27.2 Downlink

7.1.27.2.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 alt.640 |
| Max data rate, bps | | 32000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 alt. 656 |
| TFS | TF0, bits | 0x336 alt. 0x656 |
| TF1, bits | 1x336 alt. 1x656 |
| TF2, bits | 2x336 alt. none |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2124 alt. 2028 |
| RM attribute | | 135-175 alt. tbd |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.27.2.1.3 TFCS

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

7.1.27.2.2 Physical channel parameters

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

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

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

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

7.1.28.1 Uplink

7.1.28.1.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 64000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TF2, bits | 2x336 |
| TF3, bits | 3x336 |
| TF4, bits | 4x336 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 4236 |
| Uplink: Max number of bits/radio frame before rate matching | | 2118 |
| RM attribute | | 130-170 |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.28.1.1.3 TFCS

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

7.1.28.1.2 Physical channel parameters

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

7.1.28.2 Downlink

7.1.28.2.1 Transport channel parameters

See subclause 6.10.2.4.1.23.2.1 of [1].

7.1.28.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.29.1 Uplink

See subclause 6.10.2.4.1.25.1 of [1].

7.1.29.2 Downlink

7.1.29.2.1 Transport channel parameters

See subclause 6.10.2.4.1.25.2.1 of [1].

7.1.29.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.30.1 Uplink

See subclause 6.10.2.4.1.26.1 of [1].

7.1.30.2 Downlink

See subclause 7.1.29.2.

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

This is supported in Release '99.

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

7.1.31.1 Uplink

See subclause 6.10.2.4.1.27.1 of [1].

7.1.31.2 Downlink

7.1.31.2.1 Transport channel parameters

See subclause 6.10.2.4.1.27.2.1 of [1].

7.1.31.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.32.1 Uplink

See subclause 6.10.2.4.1.28.1 of [1].

7.1.32.2 Downlink

See subclause 7.1.31.2.

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

This is supported in Release '99.

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

7.1.33.1 Uplink

See subclause 6.10.2.4.1.29.1 of [1].

7.1.33.2 Downlink

7.1.33.2.1 Transport channel parameters

See subclause 6.10.2.4.1.29.2.1 of [1].

7.1.33.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.34.1 Uplink

See subclause 6.10.2.4.1.30.1 of [1].

7.1.34.2 Downlink

See subclause 7.1.33.2.

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

This is supported in Release '99.

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

7.1.35.1 On DPCH

7.1.35.1.1 Uplink

See subclause 6.10.2.4.1.31.1 of [1].

7.1.35.1.2 Downlink

7.1.35.1.2.1 Transport channel parameters

See subclause 6.10.2.4.1.31.2.1 of [1].

7.1.35.1.2.2 Physical channel parameters

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

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

This is supported in Release '99.

7.1.35.2 On PDSCH and DPCH

7.1.35.2.1 Uplink

See subclause 6.10.2.4.1.24.1 of [1].

7.1.35.2.2 Downlink

7.1.35.2.2.1 Transport channel parameters

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

| Higher  layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 384000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 18 |
| MAC multiplexing | | Logical channel multiplexing on a frame by frame basis |
| Layer 1 | TrCH type | | DSCH |
| TB sizes, bit | | 354 |
| TFS | TF0, bits | 0x354 |
| TF1, bits | 1x354 |
| TF2, bits | 2x354 |
| TF3, bits | 4 x354 |
| TF4, bits | 8 x354 |
| TF5, bits | N/A (alt. 12x354) |
| TF6, bits | N/A (alt. 16x354) |
| TTI, ms | | 10(alt. 20) |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8892(alt. 17784) |
| RM attribute | | 135-175 |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.35.2.2.1.3 TFCS

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

7.1.35.2.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| PDSCH | RAB or SRB, TrCh | | Interactive or background / 256 kbps / PS RAB, DSCH |
| DTX position | | N/A (SingleTrCH) |
| Minimum spreading factor | | 8 |
| DPCH Downlink associated with PDSCH | RAB or SRB, TrCh | | 3.4 kbps SRB for DCCH, DCH |
| DTX position | | N/A (SingleTrCH) |
| Spreading factor | | 256 |
| DPCCH | Number of TFCI bits/slot | 2 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 12 |
| Number of data bits/frame | 180 |

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

This is supported in Release '99.

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

7.1.36.1 On DPCH

7.1.36.1.1 Uplink

See subclause 6.10.2.4.1.32.1 of [1].

7.1.36.1.2 Downlink

7.1.36.1.2.1 Transport channel parameters

See subclause 6.10.2.4.1.32.2.1 of [1].

7.1.36.1.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

7.1.36.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.2 of [1].

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

This is supported in Release '99.

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

7.1.37.1 Uplink

See subclause 6.10.2.4.1.33.1 of [1].

7.1.37.2 Downlink

See subclause 7.1.36.1.2.

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

This is supported in Release '99.

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

7.1.38.1 Uplink

See subclause 6.10.2.4.1.34.1 of [1].

7.1.38.2 Downlink

See subclause 7.1.36.1.2.

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

This is supported in Release '99.

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

7.1.39.1 On DPCH

7.1.39.1.1 Uplink

See subclause 6.10.2.4.1.35.1 of [1].

7.1.39.1.2 Downlink

7.1.39.1.2.1 Transport channel parameters

See subclause 6.10.2.4.1.35.2.1 of [1].

7.1.39.1.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

7.1.39.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.3 of [1].

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

This is supported in Release '99.

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

7.1.40.1 Uplink

See subclause 6.10.2.4.1.28.1 of [1].

7.1.40.2 Downlink

See subclause 7.1.39.1.2.

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

This is supported in Release '99.

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

7.1.41.1 Uplink

See subclause 6.10.2.4.1.34.1 of [1].

7.1.41.2 Downlink

See subclause 7.1.39.1.2.

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

This is supported in Release '99.

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

7.1.42.1 Uplink

See subclause 6.10.2.4.1.38.1 of [1].

7.1.42.2 Downlink

7.1.42.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38.2.1 of [1].

7.1.42.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38a of [1].

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

This is supported in Release '99.

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

7.1.44.1 Uplink

See subclause 6.10.2.4.1.38b.1 of [1].

7.1.44.2 Downlink

7.1.44.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38b.2.1 of [1].

7.1.44.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.45.1 Uplink

See subclause 6.10.2.4.1.38c.1 of [1].

7.1.45.2 Downlink

7.1.45.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38c.2.1 of [1].

7.1.45.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

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

This is supported in Release '99.

7.1.45a.1 Uplink

7.1.45a.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1]

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

See subclause 6.10.2.4.1.23d.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.45a.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1) |

7.1.45a.1.2 Physical channel parameters

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

7.1.45a.2 Downlink

7.1.45a.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 6.10.2.4.1.23d.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.45a.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF2,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF2,TF1) |

7.1.45a.2.2 Physical channel parameters

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

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

7.1.46.1 Uplink

See subclause 6.10.2.4.1.38d.1 of [1].

7.1.46.2 Downlink

7.1.46.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38d.2.1 of [1].

7.1.46.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.38e of [1].

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

This is supported in Release '99.

### 7.1.47a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL: (12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.47a.1 Uplink

7.1.47a.1.1 Transport channel parameters

7.1.47a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.47a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.47a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.47a.1.1.4 TFCS

See clause 6.10.2.4.1.38e.1.1.4 of [1].

7.1.47a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38e.1.2 of [1].

7.1.47a.2 Downlink

7.1.47a.2.1 Transport channel parameters

7.1.47a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.47a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See clause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.47a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.47a.2.1.4 TFCS

See clause 6.10.2.4.1.38e.2.1.4 of [1].

7.1.47a.2.2 Physical channel parameters

See clause 6.10.2.4.1.38e.2.2 of [1].

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

7.1.48.1 Uplink

See subclause 6.10.2.4.1.38f.1 of [1].

7.1.48.2 Downlink

7.1.48.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38f.2.1 of [1].

7.1.48.2.2 Physical channel parameters

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

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

This is supported in Release '99.

### 7.1.48a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL: (12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.48a.1 Uplink

7.1.48a.1.1 Transport channel parameters

7.1.48a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.48a.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.1.1.2 of [1].

7.1.48a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.48a.1.1.4 TFCS

See clause 6.10.2.4.1.38f.1.1.4 of [1].

7.1.48a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38f.1.2 of [1].

7.1.48a.2 Downlink

7.1.48a.2.1 Transport channel parameters

7.1.48a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.48a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See clause 6.10.2.4.1.38b.2.1.2 of [1].

7.1.48a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.48a.2.1.4 TFCS

See clause 6.10.2.4.1.38f.2.1.4 of [1].

7.1.48a.2.2 Physical channel parameters

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

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

7.1.49.1 Uplink

See subclause 6.10.2.4.1.38g.1 of [1].

7.1.49.2 Downlink

7.1.49.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38g.2.1 of [1].

7.1.49.2.2 Physical channel parameters

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

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

This is supported in Release '99.

### 7.1.49a Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps DL: (12.2 7.4 5.9 4.75) / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.49a.1 Uplink

7.1.49a.1.1 Transport channel parameters

7.1.49a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.49a.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See clause 6.10.2.4.1.23b.1.1.1 of [1].

7.1.49a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.49a.1.1.4 TFCS

See clause 6.10.2.4.1.38g.1.1.4 of [1].

7.1.49a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38g.1.2 of [1].

7.1.49a.2 Downlink

7.1.49a.2.1 Transport channel parameters

7.1.49a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.49a.2.1.2 Transport channel parameters for Interactive or background / DL:16 kbps / PS RAB

See clause 6.10.2.4.1.23b.2.1.1 of [1].

7.1.49a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.49a.2.1.4 TFCS

See clause 6.10.2.4.1.38g.2.1.4 of [1].

7.1.49a.2.2 Physical channel parameters

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

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

7.1.50.1 Uplink

See subclause 6.10.2.4.1.38h.1 of [1].

7.1.50.2 Downlink

7.1.50.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38h.2.1 of [1].

7,1.50.2.2 Physical channel parameters

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

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

This is supported in Release '99.

### 7.1.50a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL: (12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.50a.1 Uplink

7.1.50a.1.1 Transport channel parameters

7.1.50a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.50a.1.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

See clause 6.10.2.4.1.23c.1.1.1 of [1].

7.1.50a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.50a.1.1.4 TFCS

See clause 6.10.2.4.1.38h.1.1.4 of [1].

7.1.50a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38h.1.2 of [1].

7.1.50a.2 Downlink

7.1.50a.2.1 Transport channel parameters

7.1.50a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.50a.2.1.2 Transport channel parameters for Interactive or background / DL:32 kbps / PS RAB

See clause 6.10.2.4.1.23c.2.1.1 of [1].

7.1.50a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.50a.2.1.4 TFCS

See clause 6.10.2.4.1.38h.2.1.4 of [1].

7.1.50a.2.2 Physical channel parameters

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

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

7.1.51.1 Uplink

See subclause 6.10.2.4.1.38i.1 of [1].

7.1.51.2 Downlink

7.1.51.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38i.2.1 of [1].

7.1.51.2.2 Physical channel parameters

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

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

This is supported in Release '99.

### 7.1.51a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL: (12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.51a.1 Uplink

7.1.51a.1.1 Transport channel parameters

7.1.51a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.51a.1.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See clause 6.10.2.4.1.26.1.1.1 of [1].

7.1.51a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.51a.1.1.4 TFCS

See clause 6.10.2.4.1.38i.1.1.4 of [1].

7.1.51a.1.2 Physical channel parameters

See clause 6.10.2.4.1.38i.1.2 of [1].

7.1.51a.2 Downlink

7.1.51a.2.1 Transport channel parameters

7.1.51a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.51a.2.1.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See clause 6.10.2.4.1.25.2.1.1 of [1].

7.1.51a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.51a.2.1.4 TFCS

See clause 6.10.2.4.1.38i.2.1.4 of [1].

7.1.51a.2.2 Physical channel parameters

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

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

7.1.52.1 Uplink

See subclause 6.10.2.4.1.38j.1 of [1].

7.1.52.2 Downlink

7.1.52.2.1 Transport channel parameters

See subclause 6.10.2.4.1.38j.2.1 of [1].

7.1.52.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

### 7.1.52a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL: (12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.52a.1 Uplink

See clause 7.1.51a.1.

7.1.52a.2 Downlink

7.1.52a.2.1 Transport channel parameters

7.1.52a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.52a.2.1.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See clause 6.10.2.4.1.27.2.1.1 of [1].

7.1.52a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.52a.2.1.4 TFCS

See clause 6.10.2.4.1.38j.2.1.4 of [1].

7.1.52a.2.2 Physical channel parameters

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

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

7.1.53.1 Uplink

See subclause 6.10.2.4.1.39.1 of [1].

7.1.53.2 Downlink

7.1.53.2.1 Transport channel parameters

See subclause 6.10.2.4.1.39.2.1 of [1].

7.1.53.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.54.1 Uplink

See subclause 6.10.2.4.1.40.1 of [1].

7.1.54.2 Downlink

See subclause 7.1.53.2.

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

This is supported in Release '99.

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

7.1.55.1 Uplink

See subclause 6.10.2.4.1.41.1 of [1].

7.1.55.2 Downlink

7.1.55.2.1 Transport channel parameters

See subclause 6.10.2.4.1.41.2.1 of [1].

7.1.55.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.56.1 On DPCH

7.1.56.1.1 Uplink

See subclause 6.10.2.4.1.42.1 of [1].

7.1.56.1.2 Downlink

7.1.56.1.2.1 Transport channel parameters

See subclause 6.10.2.4.1.42.2.1 of [1].

7.1.56.1.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

7.1.56.2 On PDSCH and DPCH

7.1.56.2.1 Uplink

See subclause 6.10.2.4.1.40.1 of [1].

7.1.56.2.2 Downlink

7.1.56.2.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.2.1.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.56.2.2.1.4 TFCS

|  |  |  |
| --- | --- | --- |
| PDSCH | TFCS size | 5 (alt.7) |
| TFCS | 256 kbps RAB = TF0, TF1, TF2, TF3, TF4  (alt. TF0, TF1, TF2, TF3, TF4, TF5, TF6) |
| DPCH Downlink associated with PDSCH | TFCS size | 6 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH) =  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0),  (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1) |

7.1.56.2.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| PDSCH | RAB or SRB, TrCh | | Interactive or background / 256 kbps / PS RAB, DSCH |
| DTX position | | N/A (SingleTrCH) |
| Minimum spreading factor | | 4 |
| DPCH  Downlink  associated with PDSCH | RAB or SRB, TrCh | | Conversational / speech / 12.2 kbps / CS RAB, DCH  + 3.4 kbps SRBs for DCCH. DCH |
| DTX position | | Fixed |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 2 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 32 |
| Number of data bits/frame | 480 |

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

This is supported in Release '99.

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

7.1.57.1 On DPCH

7.1.57.1.1 Uplink

See subclause 6.10.2.4.1.43.1 of [1].

7.1.57.1.2 Downlink

7.1.57.1.2.1 Transport channel parameters

See subclause 6.10.2.4.1.43.2.1 of [1].

7.1.57.1.2.2 Physical channel parameters

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

This is supported in Release '99.

7.1.57.2 On PDSCH and DPCH

See subclause 6.10.2.4.2.5 of [1].

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

This is supported in Release '99.

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

7.1.58.1 Uplink

See subclause 6.10.2.4.2.6.1 of [1].

7.1.58.2 Downlink

7.1.58.2.1 Transport channel parameters

See subclause 6.10.2.4.1.44.2.1 of [1].

7.1.58.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.59.1 Uplink

See subclause 6.10.2.4.1.44.1 of [1].

7.1.59.2 Downlink

See subclause 7.1.58.2.

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

This is supported in Release '99.

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

7.1.60.1 Uplink

See subclause 6.10.2.4.1.45.1 of [1].

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

This is supported in Release '99.

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

7.1.61.1 Uplink

See subclause 6.10.2.4.1.4.1 of [1].

7.1.61.2 Downlink

7.1.61.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 7.1.21.2.1.1.

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.61.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)=  (TF0, TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0, TF0), (TF2, TF1, TF1, TF0, TF0),  (TF0, TF0, TF0, TF1, TF0), (TF1, TF0, TF0, TF1, TF0), (TF2, TF1, TF1, TF1, TF0),  (TF0, TF0, TF0, TF2, TF0), (TF1, TF0, TF0, TF2, TF0), (TF2, TF1, TF1, TF2, TF0),  (TF0, TF0, TF0, TF3, TF0), (TF1, TF0, TF0, TF3, TF0), (TF2, TF1, TF1, TF3, TF0),  (TF0, TF0, TF0, TF4, TF0), (TF1, TF0, TF0, TF4, TF0), (TF2, TF1, TF1, TF4, TF0),  (TF0, TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF0, TF1), (TF2, TF1, TF1, TF0, TF1),  (TF0, TF0, TF0, TF1, TF1), (TF1, TF0, TF0, TF1, TF1), (TF2, TF1, TF1, TF1, TF1),  (TF0, TF0, TF0, TF2, TF1), (TF1, TF0, TF0, TF2, TF1), (TF2, TF1, TF1, TF2, TF1),  (TF0, TF0, TF0, TF3, TF1), (TF1, TF0, TF0, TF3, TF1), (TF2, TF1, TF1, TF3, TF1),  (TF0, TF0, TF0, TF4, TF1), (TF1, TF0, TF0, TF4, TF1), (TF2, TF1, TF1, TF4, TF1) |

7.1.61.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.49 of [1].

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

This is supported in Release '99.

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

See subclause 6.10.2.4.1.49a of [1].

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

This is supported in Release '99.

### 7.1.63a Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.63a.1 Uplink

7.1.63a.1.1 Transport channel parameters

7.1.63a.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See clause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.63a.1.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.1.1.1 of [1].

7.1.63a.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.1.1.1 of [1].

7.1.63a.1.1.4 TFCS

See clause 6.10.2.4.1.49a.1.1.4 of [1].

7.1.63a.1.2 Physical channel parameters

See clause 6.10.2.4.1.49a.1.2 of [1].

7.1.63a.2 Downlink

7.1.63a.2.1 Transport channel parameters

7.1.63a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.63a.2.1.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See clause 6.10.2.4.1.13.2.1.1 of [1].

7.1.63a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See clause 6.10.2.4.1.2.2.1.1 of [1].

7.1.63a.2.1.4 TFCS

See clause 6.10.2.4.1.49a.2.1.4 of [1].

7.1.63a.2.2 Physical channel parameters

See clause 6.10.2.4.1.49a.2.2 of [1].

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

See subclause 6.10.2.4.1.50 of [1].

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

This is supported in Release '99.

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

7.1.65.1 Uplink

See subclause 6.10.2.4.1.51.1 of [1].

7.1.65.2 Downlink

7.1.65.2.1 Transport channel parameters

See subclause 6.10.2.4.1.51.2.1 of [1].

7.1.65.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.66.1 Uplink

See subclause 6.10.2.4.1.51a.1 of [1].

7.1.66.2 Downlink

7.1.66.2.1 Transport channel parameters

See subclause 6.10.2.4.1.51a.2.1 of [1].

7.1.66.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.67.1 Uplink

See subclause 6.10.2.4.1.51b.1 of [1].

7.1.67.2 Downlink

See subclause 7.1.65.2.

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

This is supported in Release '99.

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

7.1.68.1 Uplink

See subclause 6.10.2.4.1.52.1 of [1].

7.1.68.2 Downlink

7.1.68.2.1 Transport channel parameters

See subclause 6.10.2.4.1.52.2.1 of [1].

7.1.68.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.69.1 Uplink

See subclause 6.10.2.4.1.53.1 of [1].

7.1.69.2 Downlink

See subclause 7.1.68.2.

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

This is supported in Release '99.

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

7.1.70.1 Uplink

See subclause 6.10.2.4.1.27.1 of [1].

7.1.70.2 Downlink

7.1.70.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 7.1.21.2.1.1.

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.70.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (I/B 128 kbps RAB, Str. 64 kbps RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0),  (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF4, TF2, TF0),  (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF4, TF3, TF0),  (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF4, TF4, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1),  (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1),  (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF4, TF2, TF1),  (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF4, TF3, TF1),  (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1), (TF4, TF4, TF1) |

7.1.70.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

This is supported in Release '99.

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

7.1.71.1 Uplink

See subclause 6.10.2.4.1.56.1 of [1].

7.1.71.2 Downlink

7.1.71.2.1 Transport channel parameters

See subclause 6.10.2.4.1.56.2.1 of [1].

7.1.71.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

7.1.72.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1].

7.1.72.2 Downlink

7.1.72.2.1 Transport channel parameters

See subclause 6.10.2.4.1.57.2.1 of [1].

7.1.72.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.73.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.73.2 Downlink

7.1.73.2.1 Transport channel parameters

See subclause 6.10.2.4.1.58.2.1 of [1].

7.1.73.2.2 Physical channel parameters

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

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

This is supported in Release '99.

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

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

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

This is supported in Release ‘99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.73a.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1]

7.1.73a.2 Downlink

7.1.73a.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.73a.2.1.4 TFCS

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

7.1.73a.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.74.1 Uplink

See subclause 6.10.2.4.1.58a.1 of [1].

7.1.74.2 Downlink

7.1.74.2.1 Transport channel parameters

See subclause 6.10.2.4.1.58a.2.1 of [1].

7.1.74.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.75.1 Uplink

7.1.75.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.75.1.1.4 TFCS

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

7.1.75.1.2 Physical channel parameters

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

7.1.75.2 Downlink

7.1.75.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.75.2.1.4 TFCS

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

7.1.75.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.76.1 Uplink

7.1.76.1.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.76.1.1.4 TFCS

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

7.1.76.1.2 Physical channel parameters

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

7.1.76.2 Downlink

7.1.76.2.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.76.2.1.4 TFCS

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

7.1.76.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.77.1 Uplink

7.1.77.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.77.1.1.4 TFCS

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

7.1.77.1.2 Physical channel parameters

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

7.1.77.2 Downlink

7.1.77.2.1 Transport channel parameters

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

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

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.77.2.1.4 TFCS

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

7.1.77.2.2 Physical channel parameters

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

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

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

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

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

This is supported in Release '99.

7.1.78.1 Uplink

7.1.78.1.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.78.1.1.4 TFCS

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

7.1.78.1.2 Physical channel parameters

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

7.1.78.2 Downlink

7.1.78.2.1 Transport channel parameters

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

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.78.2.1.4 TFCS

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

7.1.78.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.79.1 Uplink

7.1.79.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.79.1.1.4 TFCS

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

7.1.79.1.2 Physical channel parameters

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

7.1.79.2 Downlink

7.1.79.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.79.2.1.4 TFCS

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

7.1.79.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.79a.1 Uplink

7.1.79a.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

7.1.79a.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

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

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.79a.1.1.4 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.79a.1.1.5 TFCS

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

7.1.79a.1.2 Physical channel parameters

See subclause 6.10.2.4.1.38a.1.2 of [1].

7.1.79a.2 Downlink

7.1.79a.2.1 Transport channel parameters

7.1.79a.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See subclause 6.10.2.4.1.4.2.1.1 of [1].

7.1.79a.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

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

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.79a.2.1.5 TFCS

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

7.1.79a.2.2 Physical channel parameters

See subclause 6.10.2.4.1.38a.2.2 of [1].

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

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

This is supported in Release '99.

7.1.80.1 Uplink

7.1.80.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.1.1.1 of [1].

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

See subclause 6.10.2.4.1.56.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.80.1.1.4 TFCS

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

7.1.80.1.2 Physical channel parameters

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

7.1.80.2 Downlink

7.1.80.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 6.10.2.4.1.56.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.80.2.1.4 TFCS

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

7.1.80.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.81.1 Uplink

7.1.81.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.81.1.1.4 TFCS

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

7.1.81.1.2 Physical channel parameters

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

7.1.81.2 Downlink

7.1.81.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.81.2.1.4 TFCS

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

7.1.81.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.82.1 Uplink

7.1.82.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.82.1.1.4 TFCS

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

7.1.82.1.2 Physical channel parameters

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

7.1.82.2 Downlink

7.1.82.2.1 Transport channel parameters

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

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

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.82.2.1.4 TFCS

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

7.1.82.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.83.1 Uplink

7.1.83.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.83.1.1.4 TFCS

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

7.1.83.1.2 Physical channel parameters

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

7.1.83.2 Downlink

7.1.83.2.1 Transport channel parameters

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

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

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.83.2.1.4 TFCS

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

7.1.83.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.84.1 Uplink

7.1.84.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.84.1.1.3 TFCS

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

7.1.84.1.2 Physical channel parameters

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

7.1.84.2 Downlink

7.1.84.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.84.2.1.3 TFCS

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

7.1.84.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.85.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1].

7.1.85.2 Downlink

See subclause 7.1.71.2.

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

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

This is supported in Release '99.

7.1.86.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1]

7.1.86.2 Downlink

7.1.86.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.86.2.1.3 TFCS

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

7.1.86.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.87.1 Uplink

See subclause 6.10.2.4.1.57.1 of [1].

7.1.87.2 Downlink

7.1.87.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.87.2.1.3 TFCS

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

7.1.87.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.88.1 Uplink

7.1.88.1.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.88.1.1.3 TFCS

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

7.1.88.1.2 Physical channel parameters

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

7.1.88.2 Downlink

7.1.88.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.88.2.1.3 TFCS

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

7.1.88.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.89.1 Uplink

See subclause 7.1.88.1

7.1.89.2 Downlink

7.1.89.2.1 Transport channel parameters

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.89.2.1.3 TFCS

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

7.1.89.2.2 Physical channel parameters

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

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

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

This is supported in Release '99.

7.1.90.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.90.2 Downlink

See subclause 7.1.81.2.

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

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

This is supported in Release '99.

7.1.91.1 Uplink

See subclause 6.10.2.4.1.58.1 of [1].

7.1.91.2 Downlink

See subclause 7.1.82.2.

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

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

This is supported in Release '99.

7.1.92.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.92.2 Downlink

See subclause 7.1.26.2.

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

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

This is supported in Release '99.

7.1.93.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.93.2 Downlink

See subclause 7.1.29.2.

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

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

This is supported in Release '99.

7.1.94.1 Uplink

See subclause 6.10.2.4.1.23b.1 of [1].

7.1.94.2 Downlink

See subclause 7.1.31.2.

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

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

This is supported in release '99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.95.1 Uplink

7.1.95.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.58.1.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.95.1.1.5 TFCS

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

7.1.95.1.2 Physical channel parameters

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

7.1.95.2 Downlink

7.1.95.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 6.10.2.4.1.58a.2.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.95.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 60 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0),  (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF1,TF4,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF1,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1),  (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF1,TF4,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1),  (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF1,TF4,TF1,TF1) |

7.1.95.2.2 Physical channel parameters

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

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

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

This is supported in release '99.

7.1.96.1 Uplink

7.1.96.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1]

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

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

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.96.1.1.5 TFCS

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

7.1.96.1.2 Physical channel parameters

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

7.1.96.2 Downlink

7.1.96.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 7.1.81.2.1.1

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.96.2.1.5 TFCS

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

7.1.96.2.2 Physical channel parameters

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

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

See subclause 6.10.2.4.1.62 of [1].

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

This is supported in Release 5.

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

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

This is supported in Release '99.

7.1.98.1 Uplink

7.1.98.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.23.1.1.1 of [1].

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

See subclause 6.10.2.4.1.23.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.98.1.1.4 TFCS

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

7.1.98.1.2 Physical channel parameters

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

7.1.98.2 Downlink

7.1.98.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.25.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.98.2.1.4 TFCS

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

7.1.98.2.2 Physical channel parameters

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

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

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

7.1.99.1 Uplink

7.1.99.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.28.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1. of [1]

7.1.99.1.1.3 TFCS

See subclause 6.10.2.4.1.28.1.1.3 of [1]

7.1.99.1.2 Physical channel parameters

See subclause 6.10.2.4.1.28.1.2 of [1]

7.1.99.2 Downlink

7.1.99.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1. of [1]

7.1.99.2.1.3 TFCS

See subclause 6.10.2.4.1.25.2.1.3 of [1].

7.1.99.2.2 Physical channel parameters

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

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

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

7.1.100.1 Uplink

7.1.100.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.34.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.100.1.1.3 TFCS

See subclause 6.10.2.4.1.34.1.1.3 of [1]

7.1.100.1.2 Physical channel parameters

See subclause 6.10.2.4.1.34.1.2 of [1]

7.1.100.2 Downlink

7.1.100.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1. of [1]

7.1.100.2.1.3 TFCS

See subclause 6.10.2.4.1.25.2.1.3 of [1].

7.1.100.2.2 Physical channel parameters

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

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

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

7.1.101.1 Uplink

7.1.101.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.28.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.101.1.1.4 TFCS

See subclause 6.10.2.4.1.44.1.1.4 of [1]

7.1.101.1.2 Physical channel parameters

See subclause 6.10.2.4.1.44.1.2 of [1]

7.1.101.2 Downlink

7.1.101.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.101.2.1.4 TFCS

See subclause 6.10.2.4.1.39.2.1.4 of [1].

7.1.101.2.2 Physical channel parameters

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

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

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

7.1.102.1 Uplink

7.1.102.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.102.1.1.3 TFCS

See subclause 6.10.2.4.1.34.1.1.3 of [1].

7.1.102.1.2 Physical channel parameters

See subclause 6.10.2.4.1.34.1.2 of [1].

7.1.102.2 Downlink

7.1.102.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.102.2.1.3 TFCS

See subclause 6.10.2.4.1.27.2.1.3 of [1].

7.1.102.2.2 Physical channel parameters

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

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

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

7.1.103.1 Uplink

7.1.103.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1. of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.103.1.1.4 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.103.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.103.2 Downlink

7.1.103.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.103.2.1.3 TFCS

See subclause 6.10.2.4.1.39.2.1.4 of [1].

7.1.103.2.2 Physical channel parameters

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

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

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

7.1.104.1 Uplink

7.1.104.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.104.1.1.3 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.104.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.104.2 Downlink

7.1.104.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.104.2.1.4 TFCS

See subclause 6.10.2.4.1.41.2.1.4 of [1].

7.1.104.2.2 Physical channel parameters

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

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

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

7.1.105.1 Uplink

7.1.105.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 6.10.2.4.1.34.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.105.1.1.3 TFCS

See subclause 6.10.2.4.5.3.1.1.4 of [1].

7.1.105.1.2 Physical channel parameters

See subclause 6.10.2.4.5.3.1.2 of [1].

7.1.105.2 Downlink

7.1.105.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 6.10.2.4.1.32.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1. of [1].

7.1.105.2.1.4 TFCS

See subclause 6.10.2.4.1.43.2.1.4. of [1].

7.1.105.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | DTX position | | Flexible or fixed |
| 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 |

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

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

This is supported in Release 5.

7.1.106.1 Uplink

7.1.106.1.1 Transport channel parameters

7.1.106.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.106.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1) |

7.1.106.1.2 Physical channel parameters

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

7.1.106.2 Downlink

7.1.106.2.1 Transport channel parameters

7.1.106.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.106.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0),(TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1) |

7.1.106.2.2 Physical channel parameters

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

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

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

This is supported in Release 5.

7.1.107.1 Uplink

7.1.107.1.1 Transport channel parameters

7.1.107.1.1.1 Transport channel parameters for Conversational / speech / UL: (15.85 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 40, 54, 64, 72  (alt. 0, 40, 54, 64, 72) | 78, 113, 181, 245 | 60 |
| Max data rate, bps | | 15 850 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 40, 54, 64, 72  (alt. 0, 40, 54, 64, 72) | 78, 113, 181, 245 | 60 |
| TFS | TF0, bits | 0x72(alt. 1x0) (note) | 0x245 | 0x60 |
| TF1, bits | 1x40 | 1x78 | N/A |
| TF2 bits | 1x54 | 1x113 | N/A |
| TF3, bits | 1x64 | 1x181 | N/A |
| TF4, bits | 1x72 | 1x245 | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/3 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 276 | 759 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 138 | 380 | 0 |
| RM attribute | | 180-220 | 170-210 | 256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.107.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF4,TF4,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF4,TF4,TF0TF1) |

7.1.107.1.2 Physical channel parameters

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

7.1.107.2 Downlink

7.1.107.2.1 Transport channel parameters

7.1.107.2.1.1 Transport channel parameters for Conversational / speech / DL: (15.85 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3  (note 3) |  |
| RLC | Logical channel type | | DTCH | | |  |
| RLC mode | | TM | TM | TM |  |
|  | Payload sizes, bit | | 0, 40, 54, 64, 72 | 78, 113, 181, 245 | 60 |  |
|  | Max data rate, bps | | 15 850 | | |  |
| TrD PDU header, bit | | 0 | | |  |
| MAC | MAC header, bit | | 0 | | |  |
| MAC multiplexing | | N/A | | |  |
| Layer 1 | TrCH type | | DCH | DCH | DCH |  |
|  | TB sizes, bit | | 0, 40, 54, 64, 72 | 78, 113, 181, 245 | 60 |  |
|  | TFS (note 1) | TF0, bits | 1x0 (note 2) | 0x245 | 0x60 |  |
|  | TF1, bits | 1x40 | 1x78 | N/A |  |
| TF2, bits | 1x54 | 1x113 | N/A |  |
| TF3, bits | 1x64 | 1x181 | N/A |  |
| TF4, bits | 1x72 | 1x245 | N/A |  |
| TTI, ms | | 20 | 20 | 20 |  |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/3 |  |
| CRC, bit | | 12 | N/A | N/A |  |
| Max number of bits/TTI after channel coding | | 276 | 759 | 0 |  |
| RM attribute | | 180-220 | 170-210 | 256 |  |
| NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see subclause 4.3 in TS 25.212).  NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 3: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned. | | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.107.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF4,TF4,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF4,TF4,TF0,TF1) |

7.1.107.2.2 Physical channel parameters

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

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

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

This is supported in Release 5.

7.1.108.1 Uplink

7.1.108.1.1 Transport channel parameters

7.1.108.1.1.1 Transport channel parameters for Conversational / speech / UL: (23.85 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3 (note 2) | |
| RLC | Logical channel type | | DTCH | | | |
| RLC mode | | TM | TM | TM | |
| Payload sizes, bit | | 40, 54, 64, 72  (alt. 0, 40, 54, 64, 72) | 78, 113, 181, 405 | 60 | |
| Max data rate, bps | | 23 850 | | | |
| TrD PDU header, bit | | 0 | | | |
| MAC | MAC header, bit | | 0 | | | |
| MAC multiplexing | | N/A | | | |
| Layer 1 | TrCH type | | DCH | DCH | | DCH |
| TB sizes, bit | | 40, 54, 64, 72  (alt. 0, 40, 54, 64, 72) | 78, 113, 181, 405 | | 60 |
| TFS | TF0, bits | 0x72(alt. 1x0) (note) | 0x405 | | 0x60 |
| TF1, bits | 1x40 | 1x78 | | N/A |
| TF2 bits | 1x54 | 1x113 | | N/A |
| TF3, bits | 1x64 | 1x181 | | N/A |
| TF4, bits | 1x72 | 1x405 | | N/A |
| TTI, ms | | 20 | 20 | | 20 |
| Coding type | | CC 1/3 | CC 1/3 | | CC 1/3 |
| CRC, bit | | 12 | N/A | | N/A |
| Max number of bits/TTI after channel coding | | 276 | 1239 | | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 138 | 620 | | 0 |
| RM attribute | | 180-220 | 170-210 | | 256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned. | | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.108.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF4,TF4,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF4,TF4,TF0,TF1) |

7.1.108.1.2 Physical channel parameters

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

7.1.108.2 Downlink

7.1.108.2.1 Transport channel parameters

7.1.108.2.1.1 Transport channel parameters for Conversational / speech / DL: (23.85 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3  (note 3) | |
| RLC | Logical channel type | | DTCH | | | |
| RLC mode | | TM | TM | TM | |
|  | Payload sizes, bit | | 0, 40, 54, 64, 72 | 78, 113, 181, 405 | 60 | |
|  | Max data rate, bps | | 23 850 | | | |
| TrD PDU header, bit | | 0 | | | |
| MAC | MAC header, bit | | 0 | | | |
| MAC multiplexing | | N/A | | | |
| Layer 1 | TrCH type | | DCH | DCH | | DCH |
|  | TB sizes, bit | | 0, 40, 54, 64, 72 | 78, 113, 181, 405 | | 60 |
|  | TFS (note 1) | TF0, bits | 1x0 (note 2) | 0x405 | | 0x60 |
|  | TF1, bits | 1x40 | 1x78 | | N/A |
| TF2, bits | 1x54 | 1x113 | | N/A |
| TF3, bits | 1x64 | 1x181 | | N/A |
| TF4, bits | 1x72 | 1x405 | | N/A |
| TTI, ms | | 20 | 20 | | 20 |
| Coding type | | CC 1/3 | CC 1/3 | | CC 1/3 |
| CRC, bit | | 12 | N/A | | N/A |
| Max number of bits/TTI after channel coding | | 276 | 1239 | | 0 |
| RM attribute | | 180-220 | 170-210 | | 256 |
| NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see subclause 4.3 in TS 25.212).  NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 3: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned. | | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.108.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF4,TF4,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF4,TF4,TF0,TF1) |

7.1.108.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 64 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 4 |
| Number of Pilot bits/slot | 8 |
| DPDCH | Number of data bits/slot | 60 |
| Number of data bits/frame | 900 |

### 7.1.109 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL: 64 kbps plus support for 'Maximum number of TFC' = 128.

This is supported in Release 5.

7.1.109.1 Uplink

7.1.109.1.1 Transport channel parameters

7.1.109.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.26.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.109.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (RAB subflow#1, RAB subflow#2,RAB subflow#3, 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1) |

7.1.109.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1)} |

7.1.109.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.76 |

7.1.109.2 Downlink

7.1.109.2.1 Transport channel parameters

7.1.109.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.109.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.109.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 |
| TFCS | ((RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF0) |

7.1.109.2.2 Physical channel parameters

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

### 7.1.110 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL: 128 kbps plus support for 'Maximum number of TFC' = 128.

This is supported in Release 5.

7.1.110.1 Uplink

7.1.110.1.1 Transport channel parameters

7.1.110.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.26.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.110.1.1.4 TFCS

See subclause 7.1.109.1.1.4.

7.1.110.1.1.5 TFC subset list

See subclause 7.1.109.1.1.5.

7.1.110.1.2 Physical channel parameters

See subclause 7.1.109.1.2.

7.1.110.2 Downlink

7.1.110.2.1 Transport channel parameters

7.1.110.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.27.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.110.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.110.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 |
| TFCS | ((RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF0) |

7.1.110.2.2 Physical channel parameters

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

### 7.1.111 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL: 384 kbps.

This is supported in Release 5.

7.1.111.1 Uplink

7.1.111.1.1 Transport channel parameters

7.1.111.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.26.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.111.1.1.4 TFCS

See subclause 7.1.109.1.1.4.

7.1.111.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF3,TF2,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1), (TF3,TF2,TF0,TF5,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF0,TF0,TF0,TF5,TF0), (TF1,TF0,TF0,TF5,TF0), (TF2,TF1,TF0,TF5,TF0), (TF3,TF2,TF0,TF5,TF0), (TF4,TF3,TF0,TF5,TF0), (TF0,TF0,TF0,TF5,TF1), (TF1,TF0,TF0,TF5,TF1), (TF2,TF1,TF0,TF5,TF1), (TF3,TF2,TF0,TF5,TF1), (TF4,TF3,TF0,TF5,TF1)} |

7.1.111.1.2 Physical channel parameters

See subclause 7.1.109.1.2.

7.1.111.2 Downlink

7.1.111.2.1 Transport channel parameters

7.1.111.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 384 000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TF2, bits | 2x336 |
| TF3, bits | 4x336 |
| TF4, bits | 8x336 |
| TF5, bits | 12x336 |
| TTI, ms | | 10 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 12684 |
| RM attribute | | 110 to 150 |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.111.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.111.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 120 |
| TFCS | ((RAB subflow#1, RAB subflow#2, RAB subflow#3, 384 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF5,TF0,TF0), (TF1,TF0,TF0,TF5,TF0,TF0), (TF2,TF1,TF0,TF5,TF0,TF0), (TF3,TF2,TF0,TF5,TF0,TF0), (TF4,TF3,TF0,TF5,TF0,TF0), (TF0,TF0,TF0,TF5,TF1,TF0), (TF1,TF0,TF0,TF5,TF1,TF0), (TF2,TF1,TF0,TF5,TF1,TF0), (TF3,TF2,TF0,TF5,TF1,TF0), (TF4,TF3,TF0,TF5,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1), (TF0,TF0,TF0,TF5,TF0,TF1), (TF1,TF0,TF0,TF5,TF0,TF1), (TF2,TF1,TF0,TF5,TF0,TF1), (TF3,TF2,TF0,TF5,TF0,TF1), (TF4,TF3,TF0,TF5,TF0,TF1), (TF0,TF0,TF0,TF5,TF1,TF1), (TF1,TF0,TF0,TF5,TF1,TF1), (TF2,TF1,TF0,TF5,TF1,TF1), (TF3,TF2,TF0,TF5,TF1,TF1), (TF4,TF3,TF0,TF5,TF1,TF1) |

7.1.111.2.2 Physical channel parameters

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

### 7.1.112 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

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

This is supported in Release 5.

7.1.112.1 Uplink

7.1.112.1.1 Transport channel parameters

7.1.112.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

7.1.112.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.112.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1) |

7.1.112.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1)} |

7.1.112.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 0.64 |

7.1.112.2 Downlink

7.1.112.2.1 Transport channel parameters

7.1.112.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

7.1.112.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.112.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.112.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0 kbps RAB, DCCH 3.4, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1) |

7.1.112.2.2 Physical channel parameters

See subclause 6.10.2.4.1.62.2.2 of [1].

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

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

This is supported in release '99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.113.1 Uplink

See subclause 7.1.95.1

7.1.113.2 Downlink

7.1.113.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 6.10.2.4.1.58.2.1.1 of [1].

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.113.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0),  (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1),  (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1) |

7.1.113.2.2 Physical channel parameters

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

### 7.1.113a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:64 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in release '99.

7.1.113a.1 Uplink

7.1.113a.1.1 Transport channel parameters

7.1.113a.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.2.4.1.4.1.1.1 of [1]

7.1.113a.1.1.2 Transport channel parameters for Streaming / unknown / UL:64 kbps / PS RAB

See subclause 7.4.15.1.1.1

7.1.113a.1.1.3 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

7.1.113a.1.1.4 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.113a.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 60 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0),  (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF1,TF4,TF0,TF0),  (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0),  (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF1,TF4,TF1,TF0),  (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1),  (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF1,TF4,TF0,TF1),  (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1),  (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF1,TF4,TF1,TF1) |

7.1.113a.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.64 |

7.1.113a.2 Downlink

See subclause 7.1.96.2.

### 7.1.114 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5 and 'Maximum number of TFC' = 48, DL: 128 kbps plus support for 'Maximum total number of transport blocks received within TTIs that end within the same 10 ms interval' = 16 and 'Maximum number of physical channel bits received in any 10 ms interval (DPCH, S-CCPCH)' = 9600.

This is supported in release '99.

NOTE: This RAB combination is also applicable for Streaming MBMS PTP.

7.1.114.1 Uplink

7.1.114.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 7.1.83.1.1.1

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.114.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0),  (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0),  (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1),  (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1) |

7.1.114.1.2 Physical channel parameters

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

7.1.114.2 Downlink

7.1.114.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1]

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

See subclause 7.1.83.2.1.1

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.114.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 60 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 256 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0),  (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF1,TF4,TF0,TF0),  (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0),  (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF1,TF4,TF1,TF0),  (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1),  (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF1,TF4,TF0,TF1),  (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1),  (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF1,TF4,TF1,TF1) |

7.1.114.2.2 Physical channel parameters

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

### 7.1.115 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

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

This is supported in Release’99.

7.1.115.1 Uplink

7.1.115.1.1 Transport channel parameters

7.1.115.1.1.1 Transport channel parameters for Converstional / speech / UL:5.9 kbps / CS RAB

See subclause 6.10.2.4.1.9.1.1.1 of [1].

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

See subclause 6.10.2.4.1.26.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.115.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.1.115.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.84 |

7.1.115.2 Downlink

7.1.115.2.1 Transport channel parameters

7.1.115.2.1.1 Transport channel parameters for Converstional / speech / DL: 5.9 kbps / CS RAB

See subclause 6.10.2.4.1.9.2.1.1 of [1].

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

See subclause 6.10.2.4.1.25.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.115.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB , DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.1.115.2.2 Physical channel parameters

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

### 7.1.116 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release ‘99.

7.1.116.1 Uplink

7.1.116.1.1 Transport channel parameters

7.1.116.1.1.1 Transport channel parameters for Converstional / speech / UL:5.9 kbps / CS RAB

See subclause 6.10.2.4.1.9.1.1.1 of [1].

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

See subclause 6.10.2.4.1.38d.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.116.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.1.116.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.84 |

7.1.116.2 Downlink

7.1.116.2.1 Transport channel parameters

7.1.116.2.1.1 Transport channel parameters for Converstional / speech / DL: 5.9 kbps / CS RAB

See subclause 6.10.2.4.1.9.2.1.1 of [1].

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

See subclause 6.10.2.4.1.38d.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.116.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.1.116.2.2 Physical channel parameters

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

### 7.1.117 Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.4b of [1].

The minimum UE classes supporting this combination are UL: 12 kbps, DL: 32 kbps.

This is supported in Release 4.

### 7.1.118 Conversational / speech / UL:38.8 DL:38.8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-6 onwards]

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

This is supported in Release 6.

NOTE: This RAB is used for the transient state, where couple of IR packets are transmitted to synchronize contexts.

7.1.118.1 Uplink

7.1.118.1.1 Transport channel parameters

7.1.118.1.1.1 Transport channel parameters for conversational/speech/UL:38.8 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 568, 624, 640, 656, 672, 704, 768, 776  (alt 0, 568, 624, 640, 656, 672, 704, 768, 776) |
| Max data rate, bps | | 38800 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 576, 632, 648, 664, 680, 712, 776, 784  (alt 0, 576, 632, 648, 664, 680, 712, 776, 784) |
| TFS | TF0, bits | 0x784 (alt 1x0) |
| TF1, bits | 1x576 |
| TF2, bits | 1x632 |
| TF3, bits | 1x648 |
| TF4, bits | 1x664 |
| TF5, bits | 1x680 |
| TF6, bits | 1x712 |
| TF7, bits | 1x776 |
| TF8, bits | 1x784 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2412 |
| Uplink: Max number of bits/radio frame before rate matching | | 1206 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.118.1.1.2 Transport channel parameters for interactive or background/UL:8 kbps/ PS RAB + UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.1.1.1 of [1]

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.118.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (38.8 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0),  (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1),  (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1),  (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1),  (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1),  (TF8, TF1, TF1) |

7.1.118.1.2 Physical channel parameters

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

7.1.118.2 Downlink

7.1.118.2.1 Transport channel parameters

7.1.118.2.1.1 Transport channel parameters for conversational/speech/DL:38.8 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 568, 624, 640, 656, 672, 704, 768, 776  (alt 0, 568, 624, 640, 656, 672, 704, 768, 776) |
| Max data rate, bps | | 38800 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 576, 632, 648, 664, 680, 712, 776, 784  (alt 0, 576, 632, 648, 664, 680, 712, 776, 784) |
| TFS | TF0, bits | 0x784 (alt 1x0) |
| TF1, bits | 1x576 |
| TF2, bits | 1x632 |
| TF3, bits | 1x648 |
| TF4, bits | 1x664 |
| TF5, bits | 1x680 |
| TF6, bits | 1x712 |
| TF7, bits | 1x776 |
| TF8, bits | 1x784 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2412 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.118.2.1.2 Transport channel parameters for interactive or background/DL:8 kbps/ PS RAB + DL: 8 kbps / PS RAB

See subclause 6.10.2.4.1.56.2.1.1 of [1]

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

See subclause 6.10.2.4.1.2.2.1.1 of [1]

7.1.118.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (38.8 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0),  (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1),  (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1),  (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1),  (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1),  (TF8, TF1, TF1) |

7.1.118.2.2 Physical channel parameters

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

### 7.1.119 Conversational / speech / UL:16.8 DL:16.8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-6 onwards]

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 32 kbps plus support for 'Maximum number of TFC' = 96.

This is supported in Release 6.

NOTE: This RAB is used for the steady-state, where the contexts of the ROHC compressor and the ROHC decompressor are already synchronized so IR packets are not transmitted.

7.1.119.1 Uplink

7.1.119.1.1 Transport channel parameters

7.1.119.1.1.1 Transport channel parameters for conversational/speech/UL:16.8 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 80, 96, 128, 136, 152, 168, 184, 200, 216, 232, 264, 280, 288, 296, 304, 328, 336 (alt 0, 80, 96, 128, 136, 152, 168, 184, 200, 216, 232, 264, 280, 288, 296, 304, 328, 336) |
| Max data rate, bps | | 16800 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 88, 104, 136, 144, 160, 176, 192, 208, 224, 240, 272, 288, 296, 304, 312, 336, 344 (alt 0, 88, 104, 136, 144, 160, 176, 192, 208, 224, 240, 272, 288, 296, 304, 312, 336, 344) |
| TFS | TF0, bits | 0x344 (alt 1x0) |
| TF1, bits | 1x88 |
| TF2, bits | 1x104 |
| TF3, bits | 1x136 |
| TF4, bits | 1x144 |
| TF5, bits | 1x160 |
| TF6, bits | 1x176 |
| TF7, bits | 1x192 |
| TF8, bits | 1x208 |
| TF9, bits | 1x224 |
| TF10, bits | 1x240 |
| TF11, bits | 1x272 |
| TF12, bits | 1x288 |
| TF13, bits | 1x296 |
| TF14, bits | 1x304 |
| TF15, bits | 1x312 |
| TF16, bits | 1x336 |
| TF17, bits | 1x344 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1092 |
| Uplink: Max number of bits/radio frame before rate matching | | 546 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.119.1.1.2 Transport channel parameters for interactive or background/UL:8 kbps/ PS RAB + UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.119.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 72 |
| TFCS | (16.8 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0),  (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0),  (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0),  (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0),  (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1),  (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1),  (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1),  (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1),  (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1) |

7.1.119.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 0.88 |

7.1.119.2 Downlink

7.1.119.2.1 Transport channel parameters

7.1.119.2.1.1 Transport channel parameters for conversational/speech/DL:16.8 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 80, 96, 128, 136, 152, 168, 184, 200, 216, 232, 264, 280, 288, 296, 304, 328, 336 (alt 0, 80, 96, 128, 136, 152, 168, 184, 200, 216, 232, 264, 280, 288, 296, 304, 328, 336) |
| Max data rate, bps | | 16800 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 88, 104, 136, 144, 160, 176, 192, 208, 224, 240, 272, 288, 296, 304, 312, 336, 344 (alt 0, 88, 104, 136, 144, 160, 176, 192, 208, 224, 240, 272, 288, 296, 304, 312, 336, 344) |
| TFS | TF0, bits | 0x344 (alt 1x0) |
| TF1, bits | 1x88 |
| TF2, bits | 1x104 |
| TF3, bits | 1x136 |
| TF4, bits | 1x144 |
| TF5, bits | 1x160 |
| TF6, bits | 1x176 |
| TF7, bits | 1x192 |
| TF8, bits | 1x208 |
| TF9, bits | 1x224 |
| TF10, bits | 1x240 |
| TF11, bits | 1x272 |
| TF12, bits | 1x288 |
| TF13, bits | 1x296 |
| TF14, bits | 1x304 |
| TF15, bits | 1x312 |
| TF16, bits | 1x336 |
| TF17, bits | 1x344 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1092 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.119.2.1.2 Transport channel parameters for interactive or background/DL:8 kbps/ PS RAB + DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.119.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 72 |
| TFCS | (16.8 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0),  (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0),  (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0),  (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0),  (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1),  (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1),  (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1),  (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1),  (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1) |

7.1.119.2.2 Physical channel parameters

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

### 7.1.120 Conversational / speech / UL: 40 DL: 40 kbps / PS RAB + Interactive or Background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH [Rel-5 only]

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

This is supported in Release 5 only. This does not apply to Release 6 onwards.

NOTE: The first RAB is used for multiplexed RTP and RTCP flows, the second RAB is used for SIP signaling and the third RAB is used for signaling radio bearers.

7.1.120.1 Uplink

7.1.120.1.1 Transport channel parameters

7.1.120.1.1.1 Transport channel parameters for Conversational / speech / UL: 40 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 104, 320, 800 |
| Max data rate, bps | | 40000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 112, 328, 808 |
| TFS | TF0, bits | 0x808 |
| TF1, bits | 1x112 |
| TF2, bits | 1x328 |
| TF3, bits | 1x808 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2484 |
| Uplink: Max number of bits/radio frame before rate matching | | 1242 |
| RM attribute | | 180-220 |

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.120.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (40 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), |

7.1.120.1.2 Physical channel parameters

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

7.1.120.2 Downlink

7.1.120.2.1 Transport channel parameters

7.1.120.2.1.1 Transport channel parameters for Conversational / speech / DL: 40 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 104, 320, 800 |
| Max data rate, bps | | 40000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
|  | TB sizes, bit | | 112, 328, 808 |
| TFS | TF0, bits | 0x808 |
| TF1, bits | 1x112 |
| TF2, bits | 1x328 |
| TF3, bits | 1x808 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2484 |
| RM attribute | | 180-220 |

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.120.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (40 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1) |

7.1.120.2.2 Physical channel parameters

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

### 7.1.121 Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:27.2 DL:27.2 kbps SRBs for DCCH

7.1.121.1 Uplink

7.1.121.1.1 Transport channel parameters

7.1.121.1.1.1 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See subclause 6.10.2.4.1.23b.1.1.1 of [1].

7.1.121.1.1.2 Transport channel parameters for UL:27.2 kbps SRBs for DCCH

See subclause 7.1.3a.1.1.1.

7.1.121.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (16 kbps RAB, DCCH)=  (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF0,TF2), (TF1,TF2) |

7.1.121.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 0.72 |

7.1.121.2 Downlink

7.1.121.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.23b.2.1.1 of [1].

7.1.121.2.1.2 Transport channel parameters for DL:27.2 kbps SRBs for DCCH

See subclause 7.1.3a.2.1.1.

7.1.121.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (16 kbps RAB, DCCH)=  (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF0,TF2), (TF1,TF2) |

7.1.121.2.2 Physical channel parameters

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

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

This is supported in Release '99.

### 7.1.122 Conversational / speech / UL:39.6 DL:39.6 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-5]

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

This is supported in Release 5.This is not applied to Release 6 onwards.

NOTE: This RAB is used for the transient state, where couple of IR packets are transmitted to synchronize contexts.

7.1.122.1 Uplink

7.1.122.1.1 Transport channel parameters

7.1.122.1.1.1 Transport channel parameters for conversational/speech/UL:39.6 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 584, 640, 656, 672, 688, 720, 784, 792  (alt 0, 584, 640, 656, 672, 688, 720, 784, 792) |
| Max data rate, bps | | 39600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 592, 648, 664, 680, 696, 728, 792, 800  (alt 0, 592, 648, 664, 680, 696, 728, 792, 800) |
| TFS | TF0, bits | 0x800 (alt 1x0) |
| TF1, bits | 1x592 |
| TF2, bits | 1x648 |
| TF3, bits | 1x664 |
| TF4, bits | 1x680 |
| TF5, bits | 1x696 |
| TF6, bits | 1x728 |
| TF7, bits | 1x792 |
| TF8, bits | 1x800 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2460 |
| Uplink: Max number of bits/radio frame before rate matching | | 1230 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that ROHC’s small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.122.1.1.2 Transport channel parameters for interactive or background/UL:8 kbps/ PS RAB + UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.122.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (39.6 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0),  (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1),  (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1),  (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1),  (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1),  (TF8, TF1, TF1) |

7.1.122.1.2 Physical channel parameters

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

7.1.122.2 Downlink

7.1.122.2.1 Transport channel parameters

7.1.122.2.1.1 Transport channel parameters for conversational/speech/DL:39.6 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 584, 640, 656, 672, 688, 720, 784, 792  (alt 0, 584, 640, 656, 672, 688, 720, 784, 792) |
| Max data rate, bps | | 39600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 592, 648, 664, 680, 696, 728, 792, 800  (alt 0, 592, 648, 664, 680, 696, 728, 792, 800) |
| TFS | TF0, bits | 0x800 (alt 1x0) |
| TF1, bits | 1x592 |
| TF2, bits | 1x648 |
| TF3, bits | 1x664 |
| TF4, bits | 1x680 |
| TF5, bits | 1x696 |
| TF6, bits | 1x728 |
| TF7, bits | 1x792 |
| TF8, bits | 1x800 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2460 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.122.2.1.2 Transport channel parameters for interactive or background/DL:8 kbps/ PS RAB + DL: 8 kbps / PS RAB

See subclause 6.10.2.4.1.56.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.122.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (39.6 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0),  (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1),  (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1),  (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1),  (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1),  (TF8, TF1, TF1) |

7.1.122.2.2 Physical channel parameters

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

### 7.1.123 Conversational / speech / UL:17.6 DL:17.6 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH [Rel-5]

The minimum UE classes supporting this combination are UL: 32 kbps, DL: 32 kbps plus support for 'Maximum number of TFC' = 96.

This is supported in Release 5. This is not applied to Release 6 onwards.

NOTE: This RAB is used for the steady-state, where the contexts of the ROHC compressor and the ROHC decompressor are already synchronized so IR packets are not transmitted.

7.1.123.1 Uplink

7.1.123.1.1 Transport channel parameters

7.1.123.1.1.1 Transport channel parameters for conversational/speech/UL:17.6.8 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 96, 112, 144, 152, 168, 184, 200, 216, 232, 248, 280, 296, 304, 312, 320, 344, 352 (alt 0, 96, 112, 144, 152, 168, 184, 200, 216, 232, 248, 280, 296, 304, 312, 320, 344, 352) |
| Max data rate, bps | | 17600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 104, 120, 152, 160, 176, 192, 208, 224, 240, 256, 288, 304, 312, 320, 328, 352, 360 (alt 0, 104, 120, 152, 160, 176, 192, 208, 224, 240, 256, 288, 304, 312, 320, 328, 352, 360) |
| TFS | TF0, bits | 0x360 (alt 1x0) |
| TF1, bits | 1x104 |
| TF2, bits | 1x120 |
| TF3, bits | 1x152 |
| TF4, bits | 1x160 |
| TF5, bits | 1x176 |
| TF6, bits | 1x192 |
| TF7, bits | 1x208 |
| TF8, bits | 1x224 |
| TF9, bits | 1x240 |
| TF10, bits | 1x256 |
| TF11, bits | 1x288 |
| TF12, bits | 1x304 |
| TF13, bits | 1x312 |
| TF14, bits | 1x320 |
| TF15, bits | 1x328 |
| TF16, bits | 1x352 |
| TF17, bits | 1x360 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1140 |
| Uplink: Max number of bits/radio frame before rate matching | | 570 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB. | | | |

7.1.123.1.1.2 Transport channel parameters for interactive or background/UL:8 kbps/ PS RAB + UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.123.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 72 |
| TFCS | (17.6 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0),  (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0),  (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0),  (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0),  (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1),  (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1),  (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1),  (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1),  (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1) |

7.1.123.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 0.84 |

7.1.123.2 Downlink

7.1.123.2.1 Transport channel parameters

7.1.123.2.1.1 Transport channel parameters for conversational/speech/DL:17.6 kbps/ PS RAB

| Higher layer | RAB/Signalling RB | | RAB |
| --- | --- | --- | --- |
| PDCP | PDCP header size, bit | | 0 |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 96, 112, 144, 152, 168, 184, 200, 216, 232, 248, 280, 296, 304, 312, 320, 344, 352 (alt 0, 96, 112, 144, 152, 168, 184, 200, 216, 232, 248, 280, 296, 304, 312, 320, 344, 352) |
| Max data rate, bps | | 17600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 104, 120, 152, 160, 176, 192, 208, 224, 240, 256, 288, 304, 312, 320, 328, 352, 360 (alt 0, 104, 120, 152, 160, 176, 192, 208, 224, 240, 256, 288, 304, 312, 320, 328, 352, 360) |
| TFS | TF0, bits | 0x360 (alt 1x0) |
| TF1, bits | 1x104 |
| TF2, bits | 1x120 |
| TF3, bits | 1x152 |
| TF4, bits | 1x160 |
| TF5, bits | 1x176 |
| TF6, bits | 1x192 |
| TF7, bits | 1x208 |
| TF8, bits | 1x224 |
| TF9, bits | 1x240 |
| TF10, bits | 1x256 |
| TF11, bits | 1x288 |
| TF12, bits | 1x304 |
| TF13, bits | 1x312 |
| TF14, bits | 1x320 |
| TF15, bits | 1x328 |
| TF16, bits | 1x352 |
| TF17, bits | 1x360 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1140 |
| RM attribute | | 180-220 |
| NOTE: Alternative 1x0 is used to have CRC present in all transport formats.  Header compressor should ensure that small\_CID is used and that CID 0 is allocated to this RAB | | | |

7.1.123.2.1.2 Transport channel parameters for interactive or background/DL:8 kbps/ PS RAB + DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.56.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.123.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 72 |
| TFCS | (17.6. kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0),  (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0),  (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0),  (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0),  (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1),  (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1),  (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1),  (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1),  (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1) |

7.1.123.2.2 Physical channel parameters

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

### 7.1.124 Conversational / speech / UL: 39.2 DL: 39.2 kbps / PS RAB + Interactive or Background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

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

This is supported in Release 6.

NOTE: The first RAB is used for multiplexed RTP and RTCP flows, the second RAB is used for SIP signaling and the third RAB is used for signaling radio bearers.

7.1.124.1 Uplink

7.1.124.1.1 Transport channel parameters

7.1.124.1.1.1 Transport channel parameters for Conversational / speech / UL: 39.2 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 88, 304, 784 |
| Max data rate, bps | | 39200 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 96, 312, 792 |
| TFS | TF0, bits | 0x792 |
| TF1, bits | 1x96 |
| TF2, bits | 1x312 |
| TF3, bits | 1x792 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2436 |
| Uplink: Max number of bits/radio frame before rate matching | | 1218 |
| RM attribute | | 180-220 |
| NOTE: Header compressor should ensure that ROHC's small\_CID is used | | | |

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

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

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.124.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (40 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), |

7.1.124.1.2 Physical channel parameters

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

7.1.124.2 Downlink

7.1.124.2.1 Transport channel parameters

7.1.124.2.1.1 Transport channel parameters for Conversational / speech / DL: 39.2 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 88, 304, 784 |
| Max data rate, bps | | 39200 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
|  | TB sizes, bit | | 96, 312, 792 |
| TFS | TF0, bits | 0x792 |
| TF1, bits | 1x96 |
| TF2, bits | 1x312 |
| TF3, bits | 1x792 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2436 |
| RM attribute | | 180-220 |
| NOTE: Header compressor should ensure that ROHC's small\_CID is used | | | |

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

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

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.124.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (40 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1) |

7.1.124.2.2 Physical channel parameters

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

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

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

7.1.125.1 Uplink

7.1.125.1.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 128000 |
| AM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 3x656 |
| TF4, bits | 4x656 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Uplink: Max number of bits/radio frame before rate matching | | 4038 |
| RM attribute | | 125-165 |

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.125.1.1.4 TFCS

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

7.1.125.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.88 |

7.1.125.2 Downlink

7.1.125.2.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| AM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1068 |
| RM attribute | | 135-175 |

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.125.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (16 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF0,TF1,TF0), (TF1,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF0,TF1,TF1), (TF1,TF1,TF1) |

7.1.125.2.2 Physical channel parameters

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

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

This configuration is similar to configuration 7.1.96, but uses an RLC PDU size of 336 bits for the Streaming 16 kbps RB, and defines a full TFS for the Streaming 128 kbps RB. The TF 2x656 is left out of the TFCS to increase the probability that GBR can be met.

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

7.1.126.1 Uplink

7.1.126.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

See subclause 7.1.125.1.1.1.

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

See subclause 6.10.2.4.1.38b.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.126.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF1,TF4,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF1,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF1,TF4,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF1,TF4,TF1,TF1) |

7.1.126.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.76 |

7.1.126.2 Downlink

7.1.126.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

See subclause 7.1.125.2.1.1.

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

See subclause 6.10.2.4.1.38b.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.126.2.1.5 TFCS

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

7.1.126.2.2 Physical channel parameters

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

### 7.1.127 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum sum of number of bits of all convolutionally coded transport blocks being transmitted at an arbitrary time instant' = 1280, DL: 32 kbps plus support for 'Maximum number of TFC' = 48 and 'Maximum sum of number of bits of all convolutionally coded transport blocks being received at an arbitrary time instant' = 1280. The minimum UE class to support the alternative UL configuration is UL: 64kbps. The minimum UE class to support the alternative DL configuration is DL: 32 kbps plus support for 'Maximum number of TFC' = 48.

This is supported in Release 5.

7.1.127.1 Uplink

7.1.127.1.1 Transport channel parameters

7.1.127.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.127.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (RAB subflow#1, RAB subflow#2,RAB subflow#3, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1) |

7.1.127.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1)} |

7.1.127.1.2 Physical channel parameters

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

7.1.127.2 Downlink

7.1.127.2.1 Transport channel parameters

7.1.127.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.23a.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.127.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.127.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 40 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1) |

7.1.127.2.2 Physical channel parameters

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

### 7.1.128 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL: 64 kbps plus support for 'Maximum number of TFC' = 128.

This is supported in Release 5.

7.1.128.1 Uplink

7.1.128.1.1 Transport channel parameters

7.1.128.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.23c.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.128.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (RAB subflow#1, RAB subflow#2,RAB subflow#3, 32 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1) |

7.1.128.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1)} |

7.1.128.1.2 Physical channel parameters

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

7.1.128.2 Downlink

7.1.128.2.1 Transport channel parameters

7.1.128.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.23c.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.128.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.128.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 |
| TFCS | ((RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1) |

7.1.128.2.2 Physical channel parameters

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

### 7.1.129 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL: 128 kbps plus support for 'Maximum number of TFC' = 128 and 'Maximum number of physical channel bits received in any 10 ms interval (DPCH, S-CCPCH)' = 14400. The minimum UE class to support the alternative DL configuration is DL: 384 kbps plus support for 'Maximum number of TFC' = 256.

This is supported in Release 5.

7.1.129.1 Uplink

See subclause 7.1.109.1

7.1.129.2 Downlink

7.1.129.2.1 Transport channel parameters

7.1.129.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.31.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.129.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.129.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 (alt 140) |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 256 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1)  (alt. (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF5,TF0,TF0), (TF1,TF0,TF0,TF5,TF0,TF0), (TF2,TF1,TF0,TF5,TF0,TF0), (TF3,TF2,TF0,TF5,TF0,TF0), (TF4,TF3,TF0,TF5,TF0,TF0), (TF0,TF0,TF0,TF5,TF1,TF0), (TF1,TF0,TF0,TF5,TF1,TF0), (TF2,TF1,TF0,TF5,TF1,TF0), (TF3,TF2,TF0,TF5,TF1,TF0), (TF4,TF3,TF0,TF5,TF1,TF0), (TF0,TF0,TF0,TF6,TF0,TF0), (TF1,TF0,TF0,TF6,TF0,TF0), (TF2,TF1,TF0,TF6,TF0,TF0), (TF3,TF2,TF0,TF6,TF0,TF0), (TF4,TF3,TF0,TF6,TF0,TF0), (TF0,TF0,TF0,TF6,TF1,TF0), (TF1,TF0,TF0,TF6,TF1,TF0), (TF2,TF1,TF0,TF6,TF1,TF0), (TF3,TF2,TF0,TF6,TF1,TF0), (TF4,TF3,TF0,TF6,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1), (TF0,TF0,TF0,TF5,TF0,TF1), (TF1,TF0,TF0,TF5,TF0,TF1), (TF2,TF1,TF0,TF5,TF0,TF1), (TF3,TF2,TF0,TF5,TF0,TF1), (TF4,TF3,TF0,TF5,TF0,TF1), (TF0,TF0,TF0,TF5,TF1,TF1), (TF1,TF0,TF0,TF5,TF1,TF1), (TF2,TF1,TF0,TF5,TF1,TF1), (TF3,TF2,TF0,TF5,TF1,TF1), (TF4,TF3,TF0,TF5,TF1,TF1), (TF0,TF0,TF0,TF6,TF0,TF1), (TF1,TF0,TF0,TF6,TF0,TF1), (TF2,TF1,TF0,TF6,TF0,TF1), (TF3,TF2,TF0,TF6,TF0,TF1), (TF4,TF3,TF0,TF6,TF0,TF1), (TF0,TF0,TF0,TF6,TF1,TF1), (TF1,TF0,TF0,TF6,TF1,TF1), (TF2,TF1,TF0,TF6,TF1,TF1), (TF3,TF2,TF0,TF6,TF1,TF1), (TF4,TF3,TF0,TF6,TF1,TF1)) |

7.1.129.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 8 |
| DPCCH | Number of TFCI bits/slot | 8 |
| Number of TPC bits/slot | 8 |
| Number of Pilot bits/slot | 16 |
| DPDCH | Number of data bits/slot | 640 |
| Number of data bits/frame | 9600 |

### 7.1.130 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

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

This is supported in Release 5.

7.1.130.1 Uplink

7.1.130.1.1 Transport channel parameters

7.1.130.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.13.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.130.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (RAB subflow#1, RAB subflow#2,RAB subflow#3, 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1) |

7.1.130.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1)} |

7.1.130.1.2 Physical channel parameters

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

7.1.130.2 Downlink

7.1.130.2.1 Transport channel parameters

7.1.130.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.130.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.130.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 40 |
| TFCS | ((RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1) |

7.1.130.2.2 Physical channel parameters

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

### 7.1.131 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.131.1 Uplink

7.1.131.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.1.1.1 of [1].

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 | | 13 600 | 12 800 | 12 800 | 12 800 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) | | | |
| TF1, bits | 1x148 | | | |
| TF2, bits | 2x148 | | | |
| TF3, bits | 3x148 | | | |
| TF4, bits | 4x148 | | | |
| TTI, ms | | 40 | | | |
| Coding type | | CC 1/3 | | | |
| CRC, bit | | 16 | | | |
| Max number of bits/TTI before rate matching | | 1992 | | | |
| Uplink: Max number of bits/radio frame before rate matching | | 498 | | | |
| RM attribute | | 155 to 185 | | | |

7.1.131.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 11 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1),  (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1), (TF0, TF0, TF0, TF2), (TF1, TF0, TF0, TF2),  (TF0, TF0, TF0, TF3), (TF1, TF0, TF0, TF3), (TF0, TF0, TF0, TF4) |

7.1.131.1.2 Physical channel parameters

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

7.1.131.2 Downlink

7.1.131.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4.2.1.1 of [1].

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| User of Radio Bearer | | RRC | RRC | NAS\_DT High 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 | | 13 600 | 12 800 | 12 800 | 12 800 |
| AMD/UMD PDU header, bit | | 8 | 16 | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 | 4 | 4 |
| MAC multiplexing | | 4 logical channel multiplexing | | | |
| Layer 1 | TrCH type | | DCH | | | |
| TB sizes, bit | | 148 (alt 0, 148) (note) | | | |
| TFS | TF0, bits | 0x148 (alt 1x0) (note) | | | |
| TF1, bits | 1x148 | | | |
| TF2, bits | 2x148 | | | |
| TF3, bits | 3x148 | | | |
| TF4, bits | 4x148 | | | |
| TTI, ms | | 40 | | | |
| Coding type | | CC 1/3 | | | |
| CRC, bit | | 16 | | | |
| Max number of bits/TTI before rate matching | | 1992 | | | |
| RM attribute | | 155 to 230 | | | |
| NOTE: Alternative parameters enable the measurement "transport channel BLER" in the UE. | | | | | | |

7.1.131.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 11 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF2, TF1, TF1, TF0), (TF0, TF0, TF0, TF1),  (TF1, TF0, TF0, TF1), (TF2, TF1, TF1, TF1), (TF0, TF0, TF0, TF2), (TF1, TF0, TF0, TF2),  (TF0, TF0, TF0, TF3), (TF1, TF0, TF0, TF3), (TF0, TF0, TF0, TF4) |

7.1.131.2.2 Physical channel parameters

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

### 7.1.132 Conversational / speech / UL: (12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.132.1 Uplink

7.1.132.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4a.1.1.1 of [1].

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

See subclause 7.1.131.1.1.2.

7.1.132.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 17 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1),  (TF0,TF0,TF0,TF2), (TF1,TF0,TF0,TF2), (TF0,TF0,TF0,TF3), (TF1,TF0,TF0,TF3),  (TF0, TF0, TF0, TF4) |

7.1.132.1.2 Physical channel parameters

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

7.1.132.2 Downlink

7.1.132.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.4a.2.1.1 of [1].

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

See subclause 7.1.131.2.1.2.

7.1.132.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 17 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF5,TF4,TF1,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF5,TF4,TF1,TF1),  (TF0,TF0,TF0,TF2), (TF1,TF0,TF0,TF2), (TF0,TF0,TF0,TF3), (TF1,TF0,TF0,TF3),  (TF0, TF0, TF0, TF4) |

7.1.132.2.2 Physical channel parameters

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

### 7.1.132a Conversational / speech / UL: (12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH

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

This is supported in Release '99.

7.1.132a.1 Uplink

7.1.132a.1.1 Transport channel parameters

7.1.132a.1.1.1 Transport channel parameters for Conversational / speech / UL:(12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.1.1.1 of [1].

7.1.132a.1.1.2 Transport channel parameters for UL:13.6 kbps SRBs for DCCH

See subclause 7.1.131.1.1.2.

7.1.132a.1.1.3 TFCS

See subclause 7.1.132.1.1.3.

7.1.132a.1.2 Physical channel parameters

See subclause 7.1.132.1.2.

7.1.132a.2 Downlink

7.1.132a.2.1 Transport channel parameters

7.1.132a.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.2 7.4 5.9 4.75) kbps / CS RAB

See subclause 6.10.2.4.1.4b.2.1.1 of [1].

7.1.132a.2.1.2 Transport channel parameters for DL:13.6 kbps SRBs for DCCH

See subclause 7.1.131.2.1.2.

7.1.132a.2.1.3 TFCS

See subclause 7.1.132.2.1.3.

7.1.132a.2.2 Physical channel parameters

See subclause 7.1.132.2.2.

### 7.1.133 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:13.6 DL:13.6 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps with support of ‘Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant’ = 2560 and ‘Maximum number of physical channel bits received in any 10 ms interval (DPCH, S-CCPCH)’ = 2400. The minimum UE class to support the alternative DL configuration (40ms TTI) is DL: 64 kbps.

This is supported in Release '99.

7.1.133.1 Uplink

7.1.133.1.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.1.1.1 of [1].

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

See subclause 7.1.131.1.1.2

7.1.133.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 7 |
| TFCS | (64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4) |

7.1.133.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.88 |

7.1.133.2 Downlink

7.1.133.2.1 Transport channel parameters

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

See subclause 6.10.2.4.1.13.2.1.1 of [1].

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

See subclause 7.1.131.2.1.2

7.1.133.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 7 |
| TFCS | (64 kbps RAB, DCCH)=(TF0, TF0), (TF1, TF0), (TF0, TF1), (TF1, TF1), (TF0, TF2), (TF0, TF3), (TF0, TF4) |

7.1.133.2.2 Physical channel parameters

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

### 7.1.134 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + UL: 13.6 DL: 13.6 kbps SRBs for DCCH

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

This is supported in Release 5.

7.1.134.1 Uplink

7.1.134.1.1 Transport channel parameters

7.1.134.1.1.1 Transport channel parameters for Conversational / speech / UL:(12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 7.1.131.1.1.2.

7.1.134.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 15 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF0,TF0,TF0,TF2), (TF1,TF0,TF0,TF2),  (TF0,TF0,TF0,TF3), (TF1,TF0,TF0,TF3), (TF0,TF0,TF0,TF4) |

7.1.134.1.2 Physical channel parameters

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

7.1.134.2 Downlink

7.1.134.2.1 Transport channel parameters

7.1.134.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 7.1.131.2.1.2.

7.1.134.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 15 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF1,TF0,TF0), (TF3,TF2,TF0,TF0), (TF4,TF3,TF0,TF0), (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF1,TF0,TF1), (TF3,TF2,TF0,TF1), (TF4,TF3,TF0,TF1), (TF0,TF0,TF0,TF2), (TF1,TF0,TF0,TF2),  (TF0,TF0,TF0,TF3), (TF1,TF0,TF0,TF3), (TF0,TF0,TF0,TF4) |

7.1.134.2.2 Physical channel parameters

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

### 7.1.135 Void

### 7.1.136 Void

### 7.1.137 Interactive or Background / UL:32 DL:64 kbps / PS RAB + Interactive or Background / UL:32 DL:64 kbps / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps plus support for 'Maximum number of AM entities' = 5, DL: 64kbps plus support for 'Maximum number of AM entities' = 5. The minimum UE class to support the alternative UL physical configuration is UL: 12kbps plus support for 'Maximum number of AM entities' = 5 and 'Maximum number of DPDCH bits transmitted per 10 ms' = 1200.

This is supported in Release '99.

7.1.137.1 Uplink

7.1.137.1.1 Transport channel parameters

7.1.137.1.1.1 Transport channel parameters for Interactive or Background / UL:32 + UL:32 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 32000 | 32000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
| TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 (alt. N/A) | |
| TTI, ms | | 20 (alt. 10) | |
| Coding type | | TC (alt. CC 1/3) | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 2148 (1092) | |
| Uplink: Max number of bits/radio frame before rate matching | | 1074 (1092) | |
| RM attribute | | 135-175 | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1]

7.1.137.1.1.3 TFCS

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

7.1.137.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 0.88 |

7.1.137.2 Downlink

See subclause 7.1.72.2.

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

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL: 384kbps.

This is supported in Release '99.

7.1.138.1 Uplink

See subclause 7.1.88.1

7.1.138.2 Downlink

See subclause 7.1.87.2

### 7.1.139 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5, DL: 32 kbps plus support for 'Maximum number of AM entities' = 5.

This is supported in Release 5.

7.1.139.1 Uplink

7.1.139.1.1 Transport channel parameters

7.1.139.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

7.1.139.1.1.2 Transport channel parameters for Interactive or background / UL:0 + UL:0 kbps / PS RAB

See subclause 7.1.79.1.1.2

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.139.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+0 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1) |

7.1.139.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1)} |

7.1.139.1.2 Physical channel parameters

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

7.1.139.2 Downlink

7.1.139.2.1 Transport channel parameters

7.1.139.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

7.1.139.2.1.2 Transport channel parameters for Interactive or background / DL:0 + DL:0 kbps / PS RAB

See subclause 7.1.79.2.1.2

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.139.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.139.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+0 kbps RAB, DCCH 3.4, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1) |

7.1.139.2.2 Physical channel parameters

See subclause 6.10.2.4.1.62.2.2 of [1].

### 7.1.140 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5 and 'Maximum number of TFC' = 64, DL: 64 kbps plus support for 'Maximum number of AM entities' = 5 and 'Maximum number of TFC' = 128.

This is supported in Release 5.

7.1.140.1 Uplink

7.1.140.1.1 Transport channel parameters

7.1.140.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.38d.1.1.2 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.140.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64+64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1) |

7.1.140.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1)} |

7.1.140.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.76 |

7.1.140.2 Downlink

7.1.140.2.1 Transport channel parameters

7.1.140.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.38d.2.1.2 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.140.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.140.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64+64 kbps RAB, DCCH 3.4, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1) |

7.1.140.2.2 Physical channel parameters

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

### 7.1.141 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

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

This is supported in Release 5.

7.1.141.1 Uplink

7.1.141.1.1 Transport channel parameters

7.1.141.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 7.1.88.1.1.1

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.141.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128+128 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1) |

7.1.141.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1)} |

7.1.141.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.88 |

7.1.141.2 Downlink

7.1.141.2.1 Transport channel parameters

7.1.141.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 7.1.88.2.1.1

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.141.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.141.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 100 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128+128 kbps RAB, DCCH 3.4, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF0,TF0,TF0,TF4,TF0,TF0), (TF1,TF0,TF0,TF4,TF0,TF0), (TF2,TF1,TF0,TF4,TF0,TF0), (TF3,TF2,TF0,TF4,TF0,TF0), (TF4,TF3,TF0,TF4,TF0,TF0), (TF0,TF0,TF0,TF4,TF1,TF0), (TF1,TF0,TF0,TF4,TF1,TF0), (TF2,TF1,TF0,TF4,TF1,TF0), (TF3,TF2,TF0,TF4,TF1,TF0), (TF4,TF3,TF0,TF4,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF0,TF0,TF0,TF4,TF0,TF1), (TF1,TF0,TF0,TF4,TF0,TF1), (TF2,TF1,TF0,TF4,TF0,TF1), (TF3,TF2,TF0,TF4,TF0,TF1), (TF4,TF3,TF0,TF4,TF0,TF1), (TF0,TF0,TF0,TF4,TF1,TF1), (TF1,TF0,TF0,TF4,TF1,TF1), (TF2,TF1,TF0,TF4,TF1,TF1), (TF3,TF2,TF0,TF4,TF1,TF1), (TF4,TF3,TF0,TF4,TF1,TF1) |

7.1.141.2.2 Physical channel parameters

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

### 7.1.142 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB (20ms TTI) + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps plus support for 'Maximum number of TFC' = 64 and 'Maximum number of physical channel bits received in any 10 ms interval (DPCH, S-CCPCH)' = 2400.

This is supported in Release 5.

7.1.142.1 Uplink

7.1.142.1.1 Transport channel parameters

7.1.142.1.1.1 Transport channel parameters for Conversational / speech / UL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.1.1.1 of [1].

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

See subclause 6.10.2.4.1.23d.1.1.1 of [1].

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.142.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2,RAB subflow#3, 32 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1) |

7.1.142.1.1.5 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1)}  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1)}  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1)} |

7.1.142.1.2 Physical channel parameters

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

7.1.142.2 Downlink

7.1.142.2.1 Transport channel parameters

7.1.142.2.1.1 Transport channel parameters for Conversational / speech / DL: (12.65 8.85 6.6) kbps / CS RAB

See subclause 6.10.2.4.1.62.2.1.1 of [1].

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

See subclause 6.10.2.4.1.23d.2.1.1 of [1].

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.142.2.1.4 Transport channel parameters for DL:0.15 kbps SRB#5 for DCCH

See subclause 6.10.2.4.1.62.2.1.3 of [1].

7.1.142.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 60 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 32 kbps RAB, DCCH, DCCH 0.15)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0,TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0,TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1) |

7.1.142.2.2 Physical channel parameters

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

### 7.1.143 Conversational / speech / UL:6.6 DL:6.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

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

This is supported in Release 5.

7.1.143.1 Uplink

7.1.143.1.1 Transport channel parameters

7.1.143.1.1.1 Transport channel parameters for Conversational / speech / UL: 6.6 kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3 (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 40, 54  (alt. 0, 40, 54) | 78 | 60 |
| Max data rate, bps | | 6600 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 40, 54  (alt. 0, 40, 54) | 78 | 60 |
| TFS | TF0, bits | 0x54 (alt. 1x0)  (note 1) | 0x78 | 0x60 |
| TF1, bits | 1x40 | 1x78 | N/A |
| TF2 bits | 1x54 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/3 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 222 | 258 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 111 | 129 | 0 |
| RM attribute | | 180 to 220 | 170 to 210 | 256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 2: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.143.1.1.3 TFCS

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

7.1.143.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

7.1.143.2 Downlink

7.1.143.2.1 Transport channel parameters

7.1.143.2.1.1 Transport channel parameters for Conversational / speech / DL: 6.6 kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 | RAB subflow #3 (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 40, 54 | 78 | 60 |
| Max data rate, bps | | 6600 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 40, 54 | 78 | 60 |
| TFS | TF0, bits | 1x0 (note 2) | 0x78 | 0x60 |
| TF1, bits | 1x40 | 1x78 | N/A |
| TF2 bits | 1x54 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/3 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 222 | 258 | 0 |
| RM attribute | | 180 to 220 | 170 to 210 | 256 |
| NOTE 1: The TrCH corresponding to RAB subflow #1 should be used as the guiding TrCH, (see clause 4.3 in 3GPP TS 25.212 [14]).  NOTE 2: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 3: RAB subflow #3 does not exist in Iu interface. UTRAN establishes this additional "dummy" subflow when the RAB for Wideband AMR is assigned | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.143.2.1.3 TFCS

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

7.1.143.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 256 (alt. 128)128 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 2 (alt 4) |
| DPDCH | Number of data bits/slot | 16 (alt. 34)34 |
| Number of data bits/frame | 240 (alt 510)510 |

Note: The alternative DPDCH configuration is used with spreading factor of 128.

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

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

This is supported in Release '99.

7.1.144.1 Uplink

7.1.144.1.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 64 000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TF3, bits | 3x328 |
| TF4, bits | 4x328 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 4 236 |
| Uplink: Max number of bits/radio frame before rate matching | | 2 118 |
| RM attribute | | 130 to 170 |

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

See subclause 6.10.2.4.1.2.1.1.1.

7.1.144.1.1.3 TFCS

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

7.1.144.1.1.2 Physical channel parameters

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

7.1.144.2 Downlink

7.1.144.2.1 Transport channel parameters

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

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 64 000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TF3, bits | 3x328 |
| TF4, bits | 4x328 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 4 236 |
| RM attribute | | 130 to 170 |

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

See clause 6.10.2.4.1.2.2.1.1.

7.1.144.2.1.3 TFCS

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

7.1.144.2.2 Physical channel parameters

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

### 7.1.145 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.145.1 Uplink

##### 7.1.145.1.1 Transport channel parameters

7.1.145.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 7, 47, 55, 63, 139, 151, 167 (alt 0, 7, 47, 55, 63, 139, 151, 167) | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 7, 47, 55, 63, 139, 151, 167 (alt 0, 7, 47, 55, 63, 139, 151, 167) | 103 | 60 |
| TFS | TF0, bits | 0x167 (alt 1x0)  (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 561 | 0 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 281 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

###### 7.1.145.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.145.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1) |

##### 7.1.145.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.145.2 Downlink

##### 7.1.145.2.1 Transport channel parameters

7.1.145.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167 | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167 | 103 | 60 |
| TFS | TF0, bits | 1x0 (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 561 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.145.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1) |

##### 7.1.145.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 256 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 2 |
| DPDCH | Number of data bits/slot | 16 |
| Number of data bits/frame | 240 |

### 7.1.146 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.146.1 Uplink

##### 7.1.146.1.1 Transport channel parameters

7.1.146.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note2) | RAB subflow #3  (note2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 7, 47, 55, 139, 184, 199, 260, 271 (alt 0, 7, 47, 55, 139, 184, 199, 260, 271) | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 7, 47, 55, 139, 184, 199, 260, 271 (alt 0, 7, 47, 55, 139, 184, 199, 260, 271) | 103 | 60 |
| TFS | TF0, bits | 0x271 (alt 1x0)  (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x139 | N/A | N/A |
| TF5, bits | 1x184 | N/A | N/A |
| TF6, bits | 1x199 | N/A | N/A |
| TF7, bits | 1x260 | N/A | N/A |
| TF8, bits | 1x271 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 873 | 0 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 437 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.146.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1) |

##### 7.1.146.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.146.2 Downlink

##### 7.1.146.2.1 Transport channel parameters

7.1.146.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 7, 47, 55, 139, 184, 199, 260, 271 | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 7, 47, 55, 139, 184, 199, 260, 271 | 103 | 60 |
| TFS | TF0, bits | 1x0 (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x139 | N/A | N/A |
| TF5, bits | 1x184 | N/A | N/A |
| TF6, bits | 1x199 | N/A | N/A |
| TF7, bits | 1x260 | N/A | N/A |
| TF8, bits | 1x271 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 873 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.146.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1) |

##### 7.1.146.2.2 Physical channel parameters

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

### 7.1.147 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.147.1 Uplink

##### 7.1.147.1.1 Transport channel parameters

7.1.147.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note2) | RAB subflow #3  (note2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271 (alt 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271) | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271 (alt 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271) | 103 | 60 |
| TFS | TF0, bits | 0x271 (alt 1x0)  (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TF8, bits | 1x184 | N/A | N/A |
| TF9, bits | 1x199 | N/A | N/A |
| TF10, bits | 1x260 | N/A | N/A |
| TF11, bits | 1x271 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 873 | 0 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 437 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.147.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0), (TF9,TF0,TF0,TF0), (TF10,TF0,TF0,TF0), (TF11,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1), (TF9,TF0,TF0,TF1), (TF10,TF0,TF0,TF1), (TF11,TF0,TF0,TF1) |

##### 7.1.147.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.147.2 Downlink

##### 7.1.147.2.1 Transport channel parameters

7.1.147.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271 | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271 | 103 | 60 |
| TFS | TF0, bits | 1x0 (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TF8, bits | 1x184 | N/A | N/A |
| TF9, bits | 1x199 | N/A | N/A |
| TF10, bits | 1x260 | N/A | N/A |
| TF11, bits | 1x271 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 873 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.147.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0), (TF9,TF0,TF0,TF0), (TF10,TF0,TF0,TF0), (TF11,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1), (TF9,TF0,TF0,TF1), (TF10,TF0,TF0,TF1), (TF11,TF0,TF0,TF1) |

##### 7.1.147.2.2 Physical channel parameters

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

### 7.1.148 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.148.1 Uplink

##### 7.1.148.1.1 Transport channel parameters

7.1.148.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495 (alt 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495) | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495 (alt 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495) | 103 | 60 |
| TFS | TF0, bits | 0x495 (alt 1x0)  (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TF8, bits | 1x184 | N/A | N/A |
| TF9, bits | 1x199 | N/A | N/A |
| TF10, bits | 1x260 | N/A | N/A |
| TF11, bits | 1x271 | N/A | N/A |
| TF12, bits | 1x335 | N/A | N/A |
| TF13, bits | 1x495 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 1545 | 0 | 0 |
| Uplink: Max number of bits/radio frame before rate matching | | 773 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: In case of using this alternative, CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see subclause 4.2.1.1 in TS 25.212).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.148.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 28 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3,DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0), (TF9,TF0,TF0,TF0), (TF10,TF0,TF0,TF0), (TF11,TF0,TF0,TF0), (TF12,TF0,TF0,TF0), (TF13,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1), (TF9,TF0,TF0,TF1), (TF10,TF0,TF0,TF1), (TF11,TF0,TF0,TF1), (TF12,TF0,TF0,TF1), (TF13,TF0,TF0,TF1) |

##### 7.1.148.1.2 Physical channel parameters

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

#### 7.1.148.2 Downlink

##### 7.1.148.2.1 Transport channel parameters

7.1.148.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 24.4 16.2 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB subflow #1 | RAB subflow #2 (note 2) | RAB subflow #3  (note 2) |
| RLC | Logical channel type | | DTCH | | |
| RLC mode | | TM | TM | TM |
| Payload sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495 | 103 | 60 |
| Max data rate, bps | | 13 200 | | |
| TrD PDU header, bit | | 0 | | |
| MAC | MAC header, bit | | 0 | | |
| MAC multiplexing | | N/A | | |
| Layer 1 | TrCH type | | DCH | DCH | DCH |
| TB sizes, bit | | 0, 7, 47, 55, 63, 139, 151, 167, 184, 199, 260, 271, 335, 495 | 103 | 60 |
| TFS | TF0, bits | 1x0 (note 1) | 0x103 | 0x60 |
| TF1, bits | 1x7 | N/A | N/A |
| TF2, bits | 1x47 | N/A | N/A |
| TF3, bits | 1x55 | N/A | N/A |
| TF4, bits | 1x63 | N/A | N/A |
| TF5, bits | 1x139 | N/A | N/A |
| TF6, bits | 1x151 | N/A | N/A |
| TF7, bits | 1x167 | N/A | N/A |
| TF8, bits | 1x184 | N/A | N/A |
| TF9, bits | 1x199 | N/A | N/A |
| TF10, bits | 1x260 | N/A | N/A |
| TF11, bits | 1x271 | N/A | N/A |
| TF12, bits | 1x335 | N/A | N/A |
| TF13, bits | 1x495 | N/A | N/A |
| TTI, ms | | 20 | 20 | 20 |
| Coding type | | CC 1/3 | CC 1/3 | CC 1/2 |
| CRC, bit | | 12 | N/A | N/A |
| Max number of bits/TTI after channel coding | | 1545 | 0 | 0 |
| RM attribute | | 1-256 | 1-256 | 1-256 |
| NOTE 1: CRC parity bits are to be attached to RAB subflow#1 any time since number of TrBlks are 1 even if there is no data on RAB subflow#1 (see clause 4.2.1.1 in 3GPP TS 25.212 [14]).  NOTE 2: RAB subflows #2 and #3 do not exist in Iu interface. UTRAN establishes these additional "dummy" subflows when the RAB for EVS is assigned. | | | | | |

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

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.148.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 28 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, DCCH)=  (TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0), (TF2,TF0,TF0,TF0), (TF3,TF0,TF0,TF0), (TF4,TF0,TF0,TF0), (TF5,TF0,TF0,TF0), (TF6,TF0,TF0,TF0), (TF7,TF0,TF0,TF0), (TF8,TF0,TF0,TF0), (TF9,TF0,TF0,TF0), (TF10,TF0,TF0,TF0), (TF11,TF0,TF0,TF0), (TF12,TF0,TF0,TF0), (TF13,TF0,TF0,TF0)  (TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF1), (TF2,TF0,TF0,TF1), (TF3,TF0,TF0,TF1), (TF4,TF0,TF0,TF1), (TF5,TF0,TF0,TF1), (TF6,TF0,TF0,TF1), (TF7,TF0,TF0,TF1), (TF8,TF0,TF0,TF1), (TF9,TF0,TF0,TF1), (TF10,TF0,TF0,TF1), (TF11,TF0,TF0,TF1), (TF12,TF0,TF0,TF1), (TF13,TF0,TF0,TF1) |

7.1.148.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 64 |
| DPCCH | Number of TFCI bits/slot | 8 |
| Number of TPC bits/slot | 4 |
| Number of Pilot bits/slot | 8 |
| DPDCH | Number of data bits/slot | 60 |
| Number of data bits/frame | 900 |

### 7.1.149 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.149.1 Uplink

##### 7.1.149.1.1 Transport channel parameters

7.1.149.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.1.1.1

7.1.149.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.149.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.149.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1) |

7.1.149.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.149.2 Downlink

##### 7.1.149.2.1 Transport channel parameters

7.1.149.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.2.1.1

7.1.149.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.149.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.149.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 16 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1) |

##### 7.1.149.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 256 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 2 |
| DPDCH | Number of data bits/slot | 16 |
| Number of data bits/frame | 240 |

### 7.1.150 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.150.1 Uplink

##### 7.1.150.1.1 Transport channel parameters

7.1.150.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.1.1.1

7.1.150.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.150.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.150.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1) |

##### 7.1.150.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.150.2 Downlink

##### 7.1.150.2.1 Transport channel parameters

7.1.150.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.2.1.1

7.1.150.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.150.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.150.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1) |

##### 7.1.150.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 34 |
| Number of data bits/frame | 510 |

### 7.1.151 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.151.1 Uplink

##### 7.1.151.1.1 Transport channel parameters

7.1.151.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.1.1.1

7.1.151.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.151.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.151.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1) |

##### 7.1.151.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 64 |
| Max number of DPDCH data bits/radio frame | 600 |
| Puncturing Limit | 1 |

#### 7.1.151.2 Downlink

##### 7.1.151.2.1 Transport channel parameters

7.1.151.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.2.1.1

7.1.151.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.151.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.151.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1) |

##### 7.1.151.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Fixed |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 0 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 34 |
| Number of data bits/frame | 510 |

### 7.1.152 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.152.1 Uplink

##### 7.1.152.1.1 Transport channel parameters

7.1.152.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.1.1.1

7.1.152.1.1.2 Transport channel parameters for Interactive or background / UL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.1.1.2 of [1].

7.1.152.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.152.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 28 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF12,TF0,TF0,TF0,TF0), (TF13,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF12,TF0,TF0,TF0,TF1), (TF13,TF0,TF0,TF0,TF1) |

##### 7.1.152.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.1.152.2 Downlink

##### 7.1.152.2.1 Transport channel parameters

7.1.152.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 24.4 16.2 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.2.1.1

7.1.152.2.1.2 Transport channel parameters for Interactive or background / DL:0 kbps / PS RAB

See subclause 6.10.2.4.1.38a.2.1.2 of [1].

7.1.152.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.152.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 28 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF12,TF0,TF0,TF0,TF0), (TF13,TF0,TF0,TF0,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF12,TF0,TF0,TF0,TF1), (TF13,TF0,TF0,TF0,TF1) |

##### 7.1.152.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 64 |
| DPCCH | Number of TFCI bits/slot | 8 |
| Number of TPC bits/slot | 4 |
| Number of Pilot bits/slot | 8 |
| DPDCH | Number of data bits/slot | 60 |
| Number of data bits/frame | 900 |

### 7.1.153 Conversational / speech / UL:(EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL:( EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.153.1 Uplink

#### 7.1.153.1.1 Transport channel parameters

7.1.153.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.1.1.1

7.1.153.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

7.1.153.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.153.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 32 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1) |

##### 7.1.153.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.1.153.2 Downlink

##### 7.1.153.2.1 Transport channel parameters

7.1.153.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.2.1.1

7.1.153.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.2.1.1 of [1].

7.1.153.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.153.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 32 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1) |

##### 7.1.153.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 2 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 32 |
| Number of data bits/frame | 480 |

### 7.1.154 Conversational / speech / UL:(EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.154.1 Uplink

##### 7.1.154.1.1 Transport channel parameters

7.1.154.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.1.1.1

7.1.154.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

7.1.154.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.154.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1) |

##### 7.1.154.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.1.154.2 Downlink

##### 7.1.154.2.1 Transport channel parameters

7.1.154.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.2.1.1

7.1.154.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.2.1.1 of [1].

7.1.154.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.154.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 36 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1) |

##### 7.1.154.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 2 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 32 |
| Number of data bits/frame | 480 |

### 7.1.155 Conversational / speech / UL:(EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.155.1 Uplink

##### 7.1.155.1.1 Transport channel parameters

7.1.155.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.1.1.1

7.1.155.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

7.1.155.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.155.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1) |

##### 7.1.155.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.1.155.2 Downlink

##### 7.1.155.2.1 Transport channel parameters

7.1.155.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.2.1.1

7.1.155.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.2.1.1 of [1].

7.1.155.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.155.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1) |

##### 7.1.155.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 128 |
| DPCCH | Number of TFCI bits/slot | 2 |
| Number of TPC bits/slot | 2 |
| Number of Pilot bits/slot | 4 |
| DPDCH | Number of data bits/slot | 32 |
| Number of data bits/frame | 480 |

### 7.1.156 Conversational / speech / UL:(EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL:( EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.1.156.1 Uplink

##### 7.1.156.1.1 Transport channel parameters

7.1.156.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.1.1.1

7.1.156.1.1.2 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

7.1.156.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.1.156.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 56 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF12,TF0,TF0,TF0,TF0), (TF13,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0), (TF12,TF0,TF0,TF1,TF0), (TF13,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF12,TF0,TF0,TF0,TF1), (TF13,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1), (TF12,TF0,TF0,TF1,TF1), (TF13,TF0,TF0,TF1,TF1) |

##### 7.1.156.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 1 |

#### 7.1.156.2 Downlink

##### 7.1.156.2.1 Transport channel parameters

7.1.156.2.1.1 Transport channel parameters for Conversational / speech / DL: (EVS 24.4 16.2 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.2.1.1

7.1.156.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.2.1.1 of [1].

7.1.156.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.1.156.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 56 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF12,TF0,TF0,TF0,TF0), (TF13,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0), (TF12,TF0,TF0,TF1,TF0), (TF13,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF12,TF0,TF0,TF0,TF1), (TF13,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1), (TF12,TF0,TF0,TF1,TF1), (TF13,TF0,TF0,TF1,TF1) |

##### 7.1.156.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH  Downlink | DTX position | | Flexible |
| Spreading factor | | 64 |
| DPCCH | Number of TFCI bits/slot | 8 |
| Number of TPC bits/slot | 4 |
| Number of Pilot bits/slot | 8 |
| DPDCH | Number of data bits/slot | 60 |
| Number of data bits/frame | 900 |

## 7.2 Combinations on S-CCPCH

### 7.2.1 Stand-alone signalling RB for PCCH

See subclause 6.10.2.4.3.1 of [1].

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

### 7.2.2 Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.2.4.3.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 7.2.3 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.2.4.3.2a of [1].

The minimum UE class supporting this combination is DL: 32 kbps plus support for 5 AM entities.

This is supported in Release '99.

### 7.2.4 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.2.4.3.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 7.2.5 16 kbps RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.10.2.4.3.4 of [1].

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

### 7.2.6 RB for CTCH + Interactive/Background 32 kbps PS RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

7.2.6.1 Transport channel parameters

7.2.6.1.1 Transport channel parameters of RB for CTCH

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | N/A |
| User of Radio Bearer | | BMC |
| RLC | Logical channel type | | CTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 152 |
| Max data rate, bps | | 15200 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 168 |
| TFS | TF0, bts | 0x168 |
| TF1, bits | 1x168 |
| TTI, ms | | 10 |
| Coding type | | CC ½ |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 384 |
| RM attribute | | 200-240 |

7.2.6.1.2 Transport channel parameters of SRB for Interactive/Background 32 kbps PS RAB

See subclause 6.10.2.4.3.2.1.1 of [1].

7.2.6.1.3 Transport channel parameter of SRB for PCCH

See subclause 6.10.2.4.3.1.1.1 of [1].

7.2.6.1.4 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See subclause 6.10.2.4.3.2.1.2 of [1].

7.2.6.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 14 |
| TFCS | (SRB for PCCH, SRBs for CCCH/DCCH/BCCH, 32kbps RAB, RB for CTCH) =  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), (TF1, TF2, TF0, TF0), (TF0, TF0, TF1, TF0), (TF0, TF1, TF1, TF0), (TF0, TF0, TF0, TF1), (TF1, TF0, TF0, TF1), (TF0, TF1, TF0, TF1), (TF1, TF1, TF0, TF1), (TF0, TF2, TF0, TF1), (TF0, TF0, TF1, TF1) |

7.2.6.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 64 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 72 |
| Number of data bits/frame | 1080 |

### 7.2.7 Interactive/Background 16 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

7.2.7.1 Transport channel parameters

7.2.7.1.1 Transport channel parameters for Interactive/Background 16 kbps PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | RAB |
| User of Radio Bearer | | Interactive/ Background RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 24 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 360 |
| TFS | TF0, bits | 0x360 |
| TF1, bits | 1x360 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 1140 |
| RM attribute | | 110-150 |

7.2.7.1.2 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

| Higher layer | RAB/signalling RB | | SRB#0 | SRB#1 | SRB#2 | SRB#3 | SRB#4 | SRB#5 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| User of Radio Bearer | | RRC | RRC | RRC | NAS\_DT High prio | NAS\_DT Low prio | RRC |
| RLC | Logical channel type | | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| RLC mode | | UM | UM | AM | AM | AM | TM |
| Payload sizes, bit | | 152 | 136 or 120 (note) | 128 | 128 | 128 | 166 |
| Max data rate, bps | | 15200 | 13600 or 12000 | 12800 | 12800 | 12800 | 16600 |
| AMD/UMD/TrD PDU header, bit | | 8 | 8 | 16 | 16 | 16 | 0 |
| MAC | MAC header, bit | | 8 | 24 or 40 | 24 | 24 | 24 | 2 |
| MAC multiplexing | | 6 logical channel multiplexing | | | | | |
| Layer 1 | TrCH type | | FACH | | | | | |
| TB sizes, bit | | 168 | | | | | |
| TFS | TF0, bits | 0x168 | | | | | |
| TF1, bits | 1x168 | | | | | |
| TF2, bits | 2x168 | | | | | |
| TTI, ms | | 20 | | | | | |
| Coding type | | CC 1/2 | | | | | |
| CRC, bit | | 16 | | | | | |
| Max number of bits/TTI before rate matching | | 752 | | | | | |
|  | RM attribute | | 200-240 | | | | | |
| NOTE: MAC header size and PLC payload size depend on use of U-RNTI or C-RNTI. | | | | | | | | |

7.2.7.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 4 |
| TFCS | (SRBs for CCCH/DCCH/BCCH, 16 kbps RAB) =  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1) |

7.2.7.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 128 |
| Number of TFCI bits/slot | 2 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 38 |
| Number of data bits/frame | 570 |

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 7.2.8 8 kbps RB for CTCH + SRB for CCCH + SRB for BCCH

7.2.8.1 Transport channel parameters

7.2.8.1.1 Transport channel parameters of 8 kbps RB for CTCH

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | N/A |
| User of Radio Bearer | | BMC |
| RLC | Logical channel type | | CTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 152 |
| Max data rate, bps | | 7600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 168 |
| TFS | TF0, bts | 0x168 |
| TF1, bits | 1x168 |
| TTI, ms | | 20 |
| Coding type | | CC 1/3 |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 576 |
| RM attribute | | 200-240 |

7.2.8.1.2 Transport channel parameters of SRB for CCCH and SRB for BCCH

| Higher layer | RAB/signalling RB | | SRB#0 | SRB#5 |
| --- | --- | --- | --- | --- |
| User of Radio Bearer | | RRC | RRC |
| RLC | Logical channel type | | CCCH | BCCH |
| RLC mode | | UM | TM |
| Payload sizes, bit | | 152 | 166 |
| Max data rate, bps | | 7600 | 8300 |
| AMD/UMD/TrD PDU header, bit | | 8 | 0 |
| MAC | MAC header, bit | | 8 | 2 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | FACH | |
| TB sizes, bit | | 168 | |
| TFS | TF0, bits | 0x168 | |
| TF1, bits | 1x168 | |
| TTI, ms | | 20 | |
| Coding type | | CC 1/3 | |
| CRC, bit | | 16 | |
| Max number of bits/TTI before rate matching | | 576 | |
|  | RM attribute | | 200-240 | |

7.2.8.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 3 |
| TFCS | (SRBs for CCCH/ BCCH, RB for CTCH) =  (TF0, TF0), (TF1, TF0), (TF0, TF1) |

7.2.8.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 256 |
| Number of TFCI bits/slot | 2 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 18 |
| Number of data bits/frame | 270 |

The minimum UE class supporting this combination is DL: 12 kbps.

This is supported in Release '99.

### 7.2.9 Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

7.2.9.1 Transport channel parameters

7.2.9.1.1 Transport channel parameters for Interactive or background / 32 kbps / PS RAB + 32 kbps / PS RAB (RLC size 320)

See subclause 6.10.2.4.3.2a.1.1 of [1]

7.2.9.1.2 Transport channel parameters for Interactive or background / 32 kbps / PS RAB + 32 kbps / PS RAB (RLC size 640)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 640 | 640 |
| Max data rate, bps | | 32000 | 32000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 24 | 24 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | FACH | |
| TB sizes, bit | | 680 | |
| TFS | TF0, bits | 0x680 | |
| TF1, bits | 1x680 | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
|  | Max number of bits/TTI after channel coding | | 2100 | |
| RM attribute | | 110- 150 | |

7.2.9.1.3 Transport channel parameters of SRB for PCCH

See subclause 6.10.2.4.3.1.1 of [1]

7.2.9.1.4 Transport channel parameters of SRBs for CCCH, SRB for DCCH, and SRB for BCCH

See subclause 6.10.2.4.3.2.1.2 of [1]

7.2.9.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 7, 8, 9 or 10 for 240 bits PCH TrBlk size and TF3 not used  (alt 7, 8, 9 or 10, 11 or 12 for 80 bits PCH TrBlk size and TF3 not used)  (alt 7, 8, 9, 10 or 11 for 240 bits PCH TrBlk size and TF3 used)  (alt. 7, 8, 9, 10, 11, 12, 13 or 14 for 80 bits PCH TrBlk size and TF3 used) |
| TFCS | (SRB for PCCH, SRBs for CCCH/ DCCH/ BCCH, 32 kbps RAB (RLC size 320), 32 kbps RAB (RLC size 640)) =  (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF0, TF1, TF0, TF1] (see note) for 240 bits PCH TrBlk size and TF3 not used  (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF1, TF0, TF1, TF0] (see note), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF1, TF0, TF0, TF1] (see note), [TF0, TF1, TF0, TF1] (see note) for 80 bits PCH TrBlk size and TF3 not used)  (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), [TF0, TF3, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0 TF1, [TF0, TF1, TF0, TF1] (see note) for 240 bits PCH TrBlk size and TF3 used)  (alt. (TF0, TF0, TF0, TF0), (TF1, TF0, TF0, TF0), (TF0, TF1, TF0, TF0), (TF1, TF1, TF0, TF0), (TF0, TF2, TF0, TF0), [TF1, TF2, TF0, TF0] (see note), [TF0, TF3, TF0, TF0] (see note), [TF1, TF3, TF0, TF0] (see note), (TF0, TF0, TF1, TF0), [TF1, TF0, TF1, TF0] (see note), [TF0, TF1, TF1, TF0] (see note), (TF0, TF0, TF0, TF1), [TF1, TF0, TF0, TF1] (see note), [TF0, TF1, TF0, TF1] (see note) for 80 bits PCH TrBlk size and TF3 used) |
| NOTE: These TFCs are available only if SCCPCH can be allocated bigger Tx power than required Tx power for TFC of (TF0, TF2, TF0). | |

7.2.9.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 64 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 72 |
| Number of data bits/frame | 1080 |

The minimum UE class supporting this combination is DL: 32 kbps plus support for 5 AM entities.

### 7.2.10 258.4 kbps RB for MTCH with 40 ms TTI

7.2.10.1 Transport channel parameters

7.2.10.1.1 Transport channel parameters for 258.4 kbps PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | RAB |
| User of Radio Bearer | | MBMS |
| RLC | Logical channel type | | MTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 968, 1272, 2264, 2584, 3544, 3864, 4824 |
| Max data rate, bps | | 258 400 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 984, 1288, 2280, 2600, 3560, 3880, 4840 |
| TFS [1] | TF0, bits | 0x984 |
| TF1, bits | 1x984 |
| TF2, bits | 1x1288 |
| TF3, bits | 1x2280 |
| TF4, bits | 1x2600 |
| TF5, bits | 1x3560 |
| TF6, bits | 1x3880 |
| TF7, bits | 1x4840 |
| TF8, bits | 2x2600 |
| TF9, bits | 5x1288 |
| TF10, bits | 3x2600 |
| TF11, bits | 7x1288 |
| TF12, bits | 4x2600 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 31 464 |
| RM attribute | | n/a |

NOTE 1 (informative): The corresponding RTP payload sizes that fit most ideally into the transport formats are 936, 2232, 3528, 4792, 5136, 6328, 7720, 8872, and 10304 bits:

|  |  |
| --- | --- |
| **TF** | **RTP packet size and header status** |
| 0x984 | No data |
| 1x984 | 936 (compressed header) |
| 1x1288 | 936 (uncompressed header) |
| 1x2280 | 2232 (compressed header) |
| 1x2600 | 2232(uncompressed header) |
| 1x3560 | 3512(compressed header) |
| 1x3880 | 3528(uncompressed header) |
| 1x4840 | 4792 (compressed header) |
| 2x2600 | 5136 (compressed header) |
| 5x1288 | 4792 (uncompressed header)  6328(compressed header) |
| 3x2600 | 6328(uncompressed header)  7720(compressed header) |
| 7x1288 | 7720(uncompressed header)  8872 (compressed header) |
| 4x2600 | 8872 (uncompressed header)  10304 (compressed header)  10304 (uncompressed header, with overflow to next TTI) |

This table is not absolutely optimal; for instance, a 6328-bit RTP packet with an uncompressed header could be more closely accommodated with a TF of 3x2280, or exactly with a TF of 2x3344 (requiring a new TB size and matching PDU size). However, because uncompressed headers are infrequent, we have dimensioned the larger TB sizes only for the compressed-header case, accepting that the occasional uncompressed header on a large packet will involve a waste of bandwidth (small in proportion to the large packet size).

7.2.10.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 13 |
| TFCS | 258.4 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12 |

7.2.10.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 8 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 632 |
| Number of data bits/frame | 9480 |

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

### 7.2.11 129.2 kbps RB for MTCH with 40 ms TTI

7.2.11.1 Transport channel parameters

7.2.11.1.1 Transport channel parameters for 129.2 kbps PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | RAB |
| User of Radio Bearer | | MBMS |
| RLC | Logical channel type | | MTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 968, 1272, 2280, 2584, 3544, 3864, 4824 |
| Max data rate, bps | | 129 200 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 984, 1288, 2280, 2600, 3560, 3880, 4840 |
| TFS [1] | TF0, bits | 0x984 |
| TF1, bits | 1x984 |
| TF2, bits | 1x1288 |
| TF3, bits | 1x2280 |
| TF4, bits | 1x2600 |
| TF5, bits | 1x3560 |
| TF6, bits | 1x3880 |
| TF7, bits | 1x4840 |
| TF8, bits | 2x2600 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 15 732 |
| RM attribute | | n/a |

NOTE 1 (informative): The corresponding RTP payload sizes that fit most ideally into the transport formats are 936, 2232, 3528, 4792, and 5136 bits:

|  |  |
| --- | --- |
| **TF** | **RTP packet size and header status** |
| 0x984 | No data |
| 1x984 | 936 (compressed header) |
| 1x1288 | 936 (uncompressed header) |
| 1x2280 | 2232 (compressed header) |
| 1x2600 | 2232 (uncompressed header) |
| 1x3560 | 3512 (compressed header) |
| 1x3880 | 3528 (uncompressed header) |
| 1x4840 | 4792 (compressed header) |
| 2x2600 | 5136 (compressed header)  4792 (uncompressed header, with overflow to next TTI)  5056 (uncompressed header, with overflow to next TTI) |

The overflow in the case of a 4792-bit RTP packet with uncompressed header could be avoided by reducing the packet size to 4776 (hence reducing the corresponding TB size to 4824 and the PDU size to 4808), at the cost of a small amount of application bandwidth.

7.2.11.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 9 |
| TFCS | 129.2kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8 |

7.2.11.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 8 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 632 |
| Number of data bits/frame | 9480 |

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

### 7.2.12 129.2 kbps RB for MTCH with 80 ms TTI

7.2.12.1 Transport channel parameters

7.2.12.1.1 Transport channel parameters for 129.2 kbps PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | RAB |
| User of Radio Bearer | | MBMS |
| RLC | Logical channel type | | MTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 968, 1272, 2280, 2584, 3544, 3864, 4824 |
| Max data rate, bps | | 129 200 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 984, 1288, 2280, 2600, 3560, 3880, 4840 |
| TFS [1] | TF0, bits | 0x984 |
| TF1, bits | 1x984 |
| TF2, bits | 1x1288 |
| TF3, bits | 1x2280 |
| TF4, bits | 1x2600 |
| TF5, bits | 1x3560 |
| TF6, bits | 1x3880 |
| TF7, bits | 1x4840 |
| TF8, bits | 2x2600 |
| TF9, bits | 5x1288 |
| TF10, bits | 3x2600 |
| TF11, bits | 7x1288 |
| TF12, bits | 4x2600 |
| TTI, ms | | 80 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 31 464 |
| RM attribute | | n/a |

NOTE 1 (informative): The corresponding RTP payload sizes that fit most ideally into the transport formats are 936, 2232, 3528, 4792, 5136, 6328, 7720, 8872, and 10304 bits:

|  |  |
| --- | --- |
| **TF** | **RTP packet size and header status** |
| 0x984 | No data |
| 1x984 | 936 (compressed header) |
| 1x1288 | 936 (uncompressed header) |
| 1x2280 | 2232 (compressed header) |
| 1x2600 | 2232 (uncompressed header) |
| 1x3560 | 3512 (compressed header) |
| 1x3880 | 3528 (uncompressed header) |
| 1x4840 | 4792 (compressed header) |
| 2x2600 | 5136 (compressed header) |
| 5x1288 | 4792 (uncompressed header)  6328 (compressed header) |
| 3x2600 | 6328 (uncompressed header)  7720 (compressed header) |
| 7x1288 | 7720 (uncompressed header)  8872 (compressed header) |
| 4x2600 | 8872 (uncompressed header)  10304 (compressed header)  10304 (uncompressed header, with overflow to next TTI) |

This mapping is suboptimal in the same ways identified in subclause 7.2.10.1.

7.2.12.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 13 |
| TFCS | 129.2 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9, TF10, TF11, TF12 |

7.2.12.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 16 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 312 |
| Number of data bits/frame | 4680 |

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

### 7.2.13 64.6 kbps RB for MTCH with 80 ms TTI

7.2.13.1 Transport channel parameters

7.2.13.1.1 Transport channel parameters for 64.6 kbps PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | RAB |
| User of Radio Bearer | | MBMS |
| RLC | Logical channel type | | MTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 968, 1272, 2280, 2584, 3544, 3864, 4824 |
| Max data rate, bps | | 64 600 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 8 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 984, 1288, 2280, 2600, 3560, 3880, 4840 |
| TFS [1] | TF0, bits | 0x984 |
| TF1, bits | 1x984 |
| TF2, bits | 1x1288 |
| TF3, bits | 1x2280 |
| TF4, bits | 1x2600 |
| TF5, bits | 1x3560 |
| TF6, bits | 1x3880 |
| TF7, bits | 1x4840 |
| TF8, bits | 2x2600 |
| TTI, ms | | 80 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 15 720 |
| RM attribute | | n/a |

NOTE 1 (informative): The corresponding RTP payload sizes that fit most ideally into the transport formats are 936, 2232, 3528, 4792, and 5136 bits:

|  |  |
| --- | --- |
| **TF** | **RTP packet size and header status** |
| 0x984 | No data |
| 1x984 | 936 (compressed header) |
| 1x1288 | 936 (uncompressed header) |
| 1x2280 | 2232 (compressed header) |
| 1x2600 | 2232 (uncompressed header) |
| 1x3560 | 3512 (compressed header) |
| 1x3880 | 3528 (uncompressed header) |
| 1x4840 | 4792 (compressed header) |
| 2x2600 | 5136 (compressed header)  4792 (uncompressed header, with overflow to next TTI)  5136 (uncompressed header, with overflow to next TTI) |

As in subclause 7.2.11.1, the overflow in the case of a 4792-bit RTP packet with uncompressed header could be avoided by reducing the packet, TB, and PDU sizes slightly in this case.

7.2.13.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 9 |
| TFCS | 64.6 kbps RAB =TF0, TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8 |

7.2.13.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 32 |
| Number of TFCI bits/slot | 8 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 152 |
| Number of data bits/frame | 2280 |

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

### 7.2.14 64.8kbps RB for MTCH with 80 ms TTI (alternative config)

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

See subclause 6.10.2.4.3.5 of [1].

7.2.14.1 Void

7.2.14.2 Void

### 7.2.15 129.6 kbps RB for MTCH with 80 ms TTI (alternative config)

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

See subclause 6.10.2.4.3.6 of [1].

7.2.15.1 Void

7.2.15.2 Void

### 7.2.16 259.2 kbps RB for MTCH with 40 ms TTI (alternative config)

The minimum UE class supporting this combination is MBMS minimum capability.

This is supported in Release 6.

See subclause 6.10.2.4.3.7 of [1].

7.2.16.1 Void

7.2.16.2 Void

### 7.2.17 7.6 kbps signalling RB for MCCH

This is supported in Release 6 by UEs with capability for MBMS.

See subclause 6.10.2.4.3.8 of [1].

7.2.17.1 Void

7.2.17.2 Void

### 7.2.18 6.4 kbps SRB for MCCH

7.2.18.1 Transport channel parameters

7.2.18.1.1 Transport channel parameters for 6.4 kbps SRB for MCCH

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/signalling RB | | SRB |
| User of Radio Bearer | | MBMS |
| RLC | Logical channel type | | MCCH |
| RLC mode | | UM |
| Payload sizes, bit | | 64 |
| Max data rate, bps | | 6 400 |
| UM PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | No logical channel multiplexing |
| Layer 1 | TrCH type | | FACH |
| TB sizes, bit | | 72 |
| TFS | TF0, bits | 0 x72 |
| TF1, bits | 1x72 |
| TTI, ms | | 10 |
| Coding type | | CC 1/3 |
| CRC, bit | | 16 |
| Max number of bits/TTI before rate matching | | 288 |
| RM attribute | | n/a |

7.2.18.1.2 TFCS

|  |  |
| --- | --- |
| TFCS size | 2 |
| TFCS | 6.4 kbps SRB = TF0, TF1 |

7.2.18.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| SCCPCH | DTX position | Flexible |
| Spreading factor | 256 |
| Number of TFCI bits/slot | 2 |
| Number of Pilot bits/slot | 0 |
| Number of data bits/slot | 18 |
| Number of data bits/frame | 270 |

## 7.3 Combinations on PRACH

### 7.3.1 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.1 of [1]. Using Release '99 configuration of SRB#0.

The minimum UE class supporting this combination is UL: 12 kbps.

This is supported in Release '99.

### 7.3.2 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.2 of [1]. Using Release '99 configuration of SRB#0.

The minimum UE class supporting this combination is UL: 12 kbps plus support for 5 AM entities and in addition for the alternative configuration 'Maximum number of DPDCH bits transmitted per 10 ms' = 1200.

This is supported in Release '99

### 7.3.3 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.1 of [1]. Using Release 6 configuration of SRB#0.

The minimum UE class supporting this combination is UL: 12 kbps.

This is supported in Release 6.

### 7.3.4 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.2.4.4.2 of [1]. Using Release 6 configuration of SRB#0.

The minimum UE class supporting this combination is UL: 12 kbps plus support for 5 AM entities and in addition for the alternative configuration 'Maximum number of DPDCH bits transmitted per 10 ms' = 1200.

This is supported in Release 6.

## 7.4 Radio Bearer and Radio Bearer Combinations on DPCH and HS-PDSCH

In the following tables for the references to [1], the details of the configuration are defined there.

### 7.4.1 RB for Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.1.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.26.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.1.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.1b Void

### 7.4.2 RB for Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.2.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.34.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.2.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.3 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11. The minimum UE class to support the alternative UL physical configuration 2 is UL: 384kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 32.

This is supported in Release 5.

7.4.3.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.3.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.3.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.3.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.3a RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.3a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.3a.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.3a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.3a.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.4 RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 64 kbps, DL on HS-PDSCH: category 11. The minimum UE class to support the alternative UL configuration is DL: 768 kbps plus support for 'Maximum sum of number of bits of all transport blocks being transmitted at an arbitrary time instant' = 20480 and 'Maximum sum of number of bits of all turbo coded transport blocks being transmitted at an arbitrary time instant' = 20480.

This is supported in Release 5.

7.4.4.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.4.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.4.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.4.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.4a RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps, DL on DPCH: 64 kbps, DL on HS-PDSCH: category 11. The minimum UE class to support the alternative UL combination (40ms TTI) is UL: 384kbps.

This is supported in Release 5.

7.4.4a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.4a.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.4a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.4a.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.5 RB for Interactive or background / UL:384DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + Interactive or background / UL:384DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.5.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.5.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.5.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.5.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.5a RB for Interactive or background / UL:64DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + Interactive or background / UL:64DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.5a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.5a.1of [1] | | | |
| TFCS |
| Physical Channel |

7.4.5a.2 Downlink

See subclause 6.10.2.4.5.5a.2 of [1].

### 7.4.6 Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.6.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.28.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.6.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.7 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.7.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.38i.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.7.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.4.7a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.7a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 7.1.51a.1 | | | |
| TFCS |
| Physical Channel |

7.4.7a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.4.8 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16 and 'Maximum number of TFC' = 64, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.8.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1] 6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.8.1.1 | | | |
| Physical Channel | See 7.4.8.1.2 | | | |

7.4.8.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 60 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF5,TF4,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF5,TF4,TF1,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF5,TF4,TF1,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF5,TF4,TF1,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF5,TF4,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF5,TF4,TF1,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF5,TF4,TF1,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1), (TF5,TF4,TF1,TF4,TF1) |

7.4.8.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.92 |

7.4.8.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.8a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16 and 'Maximum number of TFC' = 64, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.8a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1] 6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.8.1.1 | | | |
| Physical Channel | See 7.4.8.1.2 | | | |

7.4.8a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.9 Void

### 7.4.10 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL:128 DL: [Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.10.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.44.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.10.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.4.11 Void

### 7.4.12 RB for Conversational / unknown / UL:64 DL:64 kbps / CS RAB + RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

The minimum UE classes supporting this combination are UL: 384kbps, DL on DPCH: 64 kbps, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.12.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.53.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.12.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.13.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.13.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.13.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.13.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

7.4.13 RB for Conversational / unknown / UL:42.8 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + RB for interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.13.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.60.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.13.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | See 7.4.13.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel | 6.10.2.4.1.2.2.2 of [1] | 6.10.2.4.5.2.2.2 in [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: already included in Physical Channel Definition of Radio Bearer on DPCH

7.4.13.2.1 Transport channel parameters

7.4.13.2.1.1 Transport channel parameters for HS-DSCH

7.4.13.2.1.1.1MAC-d flow parameters for conversational / unknown DL:[max bit rate depending on UE category] / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1 MAC-hs (Rel-5 and later releases)** | **Alt 2 MAC-ehs (Rel-7 and later releases)** |
| Higher  Layer | RAB/Signalling RB | **RAB** | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 920, 304, 96 | Flexible up to 12000 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | |
| MAC | MAC-d header, bit | 0 | |
| MAC multiplexing | N/A | |
| MAC-d PDU size, bit | 928, 312, 104 | Flexible |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | |
| TTI | 2 ms | |
| Coding type | TC | |
| CRC, bit | 24 | |
| Applicable modulation scheme | QPSK, 16QAM | QPSK, 16QAM, 64QAM |
| Applicable with MIMO | No | Yes |

NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).

7.4.13.2.1.1.2 MAC-d flow parameters for interactive or background DL:[max bit rate depending on UE category] / PS RAB

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

### 7.4.14 RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps plus support for 'Maximum number of DPDCH bits transmitted per 10 ms' = 4800 and ' Maximum total number of transport blocks transmitted within TTIs that start at the same time ' = 16, DL on DPCH: 32 kbps plus support for HS-PDSCH and 'Maximum number of AM entities' = 5, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.14.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.58.1.1.1 of [1]  6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.14.1.1 | | | |
| Physical Channel | See 7.4.14.1.2 | | | |

7.4.14.1.1 Transport channel parameters

7.4.14.1.1.1 Void

7.4.14.1.1.2 Void

7.4.14.1.1.3 Void

7.4.14.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (16 kbps RAB, 128 kbps RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF0, TF3, TF0), (TF1, TF3, TF0), (TF0, TF4, TF0), (TF1, TF4, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF0, TF3, TF1), (TF1, TF3, TF1), (TF0, TF4, TF1), (TF1, TF4, TF1) |

7.4.14.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.8 |

7.4.14.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel | 6.10.2.4.1.2.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

7.4.14.2.1 Transport channel parameters

7.4.14.2.1.1 Transport channel parameters for HS-DSCH

7.4.14.2.1.1.1 MAC-d flow parameters for Streaming / unknown / DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Alt 1**  **Fixed RLC + MAC-hs**  **(Rel-5 and later releases)** | **Alt2**  **Fixed RLC + MAC-ehs (Rel-7 and later releases)** | **Alt 3**  **Flexible RLC + MAC-ehs**  **(Rel-7 and later releases)** |
| Higher  layer | RAB/Signalling RB | **RAB** | | |
| RLC | Logical channel type | DTCH | | |
| RLC mode | AM | | |
| Payload sizes, bit | 320 (alt. 640) | 320 (alt. 640) | Flexible up to 12000 |
| Max data rate, bps | depends on UE category  NOTE1 | | |
| AMD PDU header, bit | 16 | | |
| MAC | MAC-d header, bit | 0 | | |
| MAC multiplexing | N/A | | |
| MAC-d PDU size, bit | 336 (alt. 656) | 336 (alt. 656) | Flexible |
| MAC-hs Type | MAC-hs | MAC-ehs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 | 24 |
| Layer 1 | TrCH type | HS-DSCH | | |
| TTI | 2 ms | | |
| Coding type | TC | | |
| CRC, bit | 24 | | |
| Applicable modulation scheme | QPSK, 16QAM | QPSK, 16QAM, 64QAM | QPSK, 16QAM, 64QAM |
| Applicable with MIMO | No | Yes | Yes |

NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).

7.4.14.2.1.1.2 MAC-d flow parameters for Interactive or background / DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.14.2.1.2 Void

### 7.4.15 RB for Streaming / unknown / UL:64 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Note that the streaming RAB is not supported by all number of processes for UE category 1 and 11.

The minimum UE classes supporting this combination are UL: 384kbps, DL on DPCH: 64 kbps plus support for 'Maximum number of AM entities' = 5 and ' Total RLC AM buffer size' = 50, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.15.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.15.1.1.4 | | | |
| Physical Channel | See 7.4.15.1.2 | | | |

7.4.15.1.1 Transport channel parameters

7.4.15.1.1.1 Transport channel parameters for Streaming / unknown / UL:64 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 64000 |
| AM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 3x656 |
| TF4, bits | 4x656 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Uplink: Max number of bits/radio frame before rate matching | | 2019 |
| RM attribute | | 125-165 |

7.4.15.1.1.2 Void

7.4.15.1.1.3 Void

7.4.15.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (64 kbps RAB, 128 kbps RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0),  (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF4, TF2, TF0),  (TF0, TF3, TF0), (TF1, TF3, TF0), (TF2, TF3, TF0), (TF3, TF3, TF0), (TF4, TF3, TF0),  (TF0, TF4, TF0), (TF1, TF4, TF0), (TF2, TF4, TF0), (TF3, TF4, TF0), (TF4, TF4, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1),  (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1),  (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF4, TF2, TF1),  (TF0, TF3, TF1), (TF1, TF3, TF1), (TF2, TF3, TF1), (TF3, TF3, TF1), (TF4, TF3, TF1),  (TF0, TF4, TF1), (TF1, TF4, TF1), (TF2, TF4, TF1), (TF3, TF4, TF1), (TF4, TF4, TF1) |

7.4.15.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 4 |
| Max number of DPDCH data bits/radio frame | 9600 |
| Puncturing Limit | 1 |

7.4.15.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel | 6.10.2.4.1.2.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.4a.2.2 of [1] See NOTE. |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.16 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16 and 'Maximum number of TFC' = 128, DL on DPCH: 64 kbps plus support for 'Maximum number of AM entities' = 5 and ' Total RLC AM buffer size' = 50, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.16.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1]  6.10.2.4.1.58.1.1.1 of [1]  6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.16.1.1.5 | | | |
| Physical Channel | See 7.4.16.1.2 | | | |

7.4.16.1.1 Transport channel parameters

7.4.16.1.1.1 Void

7.4.16.1.1.2 Void

7.4.16.1.1.3 Void

7.4.16.1.1.4 Void

7.4.16.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 120 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 128 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0, TF0, TF0), (TF1,TF0,TF0, TF0, TF0, TF0), (TF2,TF1,TF0, TF0, TF0, TF0), (TF3,TF2,TF0, TF0, TF0, TF0), (TF4,TF3,TF0, TF0, TF0, TF0), (TF5,TF4,TF1, TF0, TF0, TF0),  (TF0,TF0,TF0,TF1, TF0, TF0), (TF1,TF0,TF0, TF1, TF0, TF0), (TF2,TF1,TF0, TF1, TF0, TF0), (TF3,TF2,TF0, TF1, TF0, TF0), (TF4,TF3,TF0, TF1, TF0, TF0), (TF5,TF4,TF1, TF1, TF0, TF0),  (TF0,TF0,TF0,TF0, TF1, TF0), (TF1,TF0,TF0, TF0, TF1, TF0), (TF2,TF1,TF0, TF0, TF1, TF0), (TF3,TF2,TF0, TF0, TF1, TF0), (TF4,TF3,TF0, TF0, TF1, TF0), (TF5,TF4,TF1, TF0, TF1, TF0),  (TF0,TF0,TF0,TF1, TF1, TF0), (TF1,TF0,TF0, TF1, TF1, TF0), (TF2,TF1,TF0, TF1, TF1, TF0), (TF3,TF2,TF0, TF1, TF1, TF0), (TF4,TF3,TF0, TF1, TF1, TF0), (TF5,TF4,TF1, TF1, TF1, TF0),  (TF0,TF0,TF0,TF0, TF2, TF0), (TF1,TF0,TF0, TF0, TF2, TF0), (TF2,TF1,TF0, TF0, TF2, TF0), (TF3,TF2,TF0, TF0, TF2, TF0), (TF4,TF3,TF0, TF0, TF2, TF0), (TF5,TF4,TF1, TF0, TF2, TF0),  (TF0,TF0,TF0,TF1, TF2, TF0), (TF1,TF0,TF0, TF1, TF2, TF0), (TF2,TF1,TF0, TF1, TF2, TF0), (TF3,TF2,TF0, TF1, TF2, TF0), (TF4,TF3,TF0, TF1, TF2, TF0), (TF5,TF4,TF1, TF1, TF2, TF0),  (TF0,TF0,TF0,TF0, TF3, TF0), (TF1,TF0,TF0, TF0, TF3, TF0), (TF2,TF1,TF0, TF0, TF3, TF0), (TF3,TF2,TF0, TF0, TF3, TF0), (TF4,TF3,TF0, TF0, TF3, TF0), (TF5,TF4,TF1, TF0, TF3, TF0),  (TF0,TF0,TF0,TF1, TF3, TF0), (TF1,TF0,TF0, TF1, TF3, TF0), (TF2,TF1,TF0, TF1, TF3, TF0), (TF3,TF2,TF0, TF1, TF3, TF0), (TF4,TF3,TF0, TF1, TF3, TF0), (TF5,TF4,TF1, TF1, TF3, TF0),  (TF0,TF0,TF0,TF0, TF4, TF0), (TF1,TF0,TF0, TF0, TF4, TF0), (TF2,TF1,TF0, TF0, TF4, TF0), (TF3,TF2,TF0, TF0, TF4, TF0), (TF4,TF3,TF0, TF0, TF4, TF0), (TF5,TF4,TF1, TF0, TF4, TF0),  (TF0,TF0,TF0,TF1, TF4, TF0), (TF1,TF0,TF0, TF1, TF4, TF0), (TF2,TF1,TF0, TF1, TF4, TF0), (TF3,TF2,TF0, TF1, TF4, TF0), (TF4,TF3,TF0, TF1, TF4, TF0), (TF5,TF4,TF1, TF1, TF4, TF0),  (TF0,TF0,TF0,TF0, TF0, TF1), (TF1,TF0,TF0, TF0, TF0, TF1), (TF2,TF1,TF0, TF0, TF0, TF1), (TF3,TF2,TF0, TF0, TF0, TF1), (TF4,TF3,TF0, TF0, TF0, TF1), (TF5,TF4,TF1, TF0, TF0, TF1),  (TF0,TF0,TF0,TF1, TF0, TF1), (TF1,TF0,TF0, TF1, TF0, TF1), (TF2,TF1,TF0, TF1, TF0, TF1), (TF3,TF2,TF0, TF1, TF0, TF1), (TF4,TF3,TF0, TF1, TF0, TF1), (TF5,TF4,TF1, TF1, TF0, TF1),  (TF0,TF0,TF0,TF0, TF1, TF1), (TF1,TF0,TF0, TF0, TF1, TF1), (TF2,TF1,TF0, TF0, TF1, TF1), (TF3,TF2,TF0, TF0, TF1, TF1), (TF4,TF3,TF0, TF0, TF1, TF1), (TF5,TF4,TF1, TF0, TF1, TF1),  (TF0,TF0,TF0,TF1, TF1, TF1), (TF1,TF0,TF0, TF1, TF1, TF1), (TF2,TF1,TF0, TF1, TF1, TF1), (TF3,TF2,TF0, TF1, TF1, TF1), (TF4,TF3,TF0, TF1, TF1, TF1), (TF5,TF4,TF1, TF1, TF1, TF1),  (TF0,TF0,TF0,TF0, TF2, TF1), (TF1,TF0,TF0, TF0, TF2, TF1), (TF2,TF1,TF0, TF0, TF2, TF1), (TF3,TF2,TF0, TF0, TF2, TF1), (TF4,TF3,TF0, TF0, TF2, TF1), (TF5,TF4,TF1, TF0, TF2, TF1),  (TF0,TF0,TF0,TF1, TF2, TF1), (TF1,TF0,TF0, TF1, TF2, TF1), (TF2,TF1,TF0, TF1, TF2, TF1), (TF3,TF2,TF0, TF1, TF2, TF1), (TF4,TF3,TF0, TF1, TF2, TF1), (TF5,TF4,TF1, TF1, TF2, TF1),  (TF0,TF0,TF0,TF0, TF3, TF1), (TF1,TF0,TF0, TF0, TF3, TF1), (TF2,TF1,TF0, TF0, TF3, TF1), (TF3,TF2,TF0, TF0, TF3, TF1), (TF4,TF3,TF0, TF0, TF3, TF1), (TF5,TF4,TF1, TF0, TF3, TF1),  (TF0,TF0,TF0,TF1, TF3, TF1), (TF1,TF0,TF0, TF1, TF3, TF1), (TF2,TF1,TF0, TF1, TF3, TF1), (TF3,TF2,TF0, TF1, TF3, TF1), (TF4,TF3,TF0, TF1, TF3, TF1), (TF5,TF4,TF1, TF1, TF3, TF1),  (TF0,TF0,TF0,TF0, TF4, TF1), (TF1,TF0,TF0, TF0, TF4, TF1), (TF2,TF1,TF0, TF0, TF4, TF1), (TF3,TF2,TF0, TF0, TF4, TF1), (TF4,TF3,TF0, TF0, TF4, TF1), (TF5,TF4,TF1, TF0, TF4, TF1),  (TF0,TF0,TF0,TF1, TF4, TF1), (TF1,TF0,TF0, TF1, TF4, TF1), (TF2,TF1,TF0, TF1, TF4, TF1), (TF3,TF2,TF0, TF1, TF4, TF1), (TF4,TF3,TF0, TF1, TF4, TF1), (TF5,TF4,TF1, TF1, TF4, TF1) |

7.4.16.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 8 |
| Max number of DPDCH data bits/radio frame | 4800 |
| Puncturing Limit | 0.72 |

7.4.16.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-DPCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-DPCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.16a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:16 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16 and 'Maximum number of TFC' = 128, DL on DPCH: 64 kbps plus support for 'Maximum number of AM entities' = 5 and ' Total RLC AM buffer size' = 50, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.16a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1]  6.10.2.4.1.58.1.1.1 of [1]  6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.16.1.1.5 | | | |
| Physical Channel | See 7.4.16.1.2 | | | |

7.4.16a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-DPCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-DPCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.17 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:128 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384kbps plus support for 'Maximum number of TFC' = 256, DL on DPCH: 64 kbps plus support for 'Maximum number of AM entities' = 5 and ' Total RLC AM buffer size' = 50, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.17.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1]  See 7.1.96.1.1.2  6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.17.1.1.5 | | | |
| Physical Channel | See 7.4.17.1.2 | | | |

7.4.17.1.1 Transport channel parameters

7.4.17.1.1.1 Void

7.4.17.1.1.2 Void

7.4.17.1.1.3 Void

7.4.17.1.1.4 Void

7.4.17.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 240 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 128 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0,TF0), (TF3,TF2,TF0, TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0,TF0), (TF5,TF4,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF0,TF1,TF0,TF0), (TF3,TF2,TF0,TF1,TF0,TF0), (TF4,TF3,TF0,TF1,TF0,TF0), (TF5,TF4,TF1,TF1,TF0,TF0),  (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF0,TF2,TF0,TF0), (TF3,TF2,TF0,TF2,TF0,TF0), (TF4,TF3,TF0,TF2,TF0,TF0), (TF5,TF4,TF1,TF2,TF0,TF0),  (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0, TF3,TF0,TF0), (TF2,TF1,TF0,TF3,TF0,TF0), (TF3,TF2,TF0,TF3,TF0,TF0), (TF4,TF3,TF0,TF3,TF0,TF0), (TF5,TF4,TF1,TF3,TF0,TF0),  (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF0,TF1,TF0), (TF3,TF2,TF0, TF0,TF1,TF0), (TF4,TF3,TF0,TF0,TF1,TF0), (TF5,TF4,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF0,TF1,TF1,TF0), (TF3,TF2,TF0,TF1,TF1,TF0), (TF4,TF3,TF0,TF1,TF1,TF0), (TF5,TF4,TF1,TF1,TF1,TF0),  (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF0,TF2,TF1,TF0), (TF3,TF2,TF0,TF2,TF1,TF0), (TF4,TF3,TF0,TF2,TF1,TF0), (TF5,TF4,TF1,TF2,TF1,TF0),  (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0, TF3,TF1,TF0), (TF2,TF1,TF0,TF3,TF1,TF0), (TF3,TF2,TF0,TF3,TF1,TF0), (TF4,TF3,TF0,TF3,TF1,TF0), (TF5,TF4,TF1,TF3,TF1,TF0),  (TF0,TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF0,TF2,TF0), (TF3,TF2,TF0, TF0,TF2,TF0), (TF4,TF3,TF0,TF0,TF2,TF0), (TF5,TF4,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF1,TF2,TF0), (TF1,TF0,TF0,TF1,TF2,TF0), (TF2,TF1,TF0,TF1,TF2,TF0), (TF3,TF2,TF0,TF1,TF2,TF0), (TF4,TF3,TF0,TF1,TF2,TF0), (TF5,TF4,TF1,TF1,TF2,TF0),  (TF0,TF0,TF0,TF2,TF2,TF0), (TF1,TF0,TF0,TF2,TF2,TF0), (TF2,TF1,TF0,TF2,TF2,TF0), (TF3,TF2,TF0,TF2,TF2,TF0), (TF4,TF3,TF0,TF2,TF2,TF0), (TF5,TF4,TF1,TF2,TF2,TF0),  (TF0,TF0,TF0,TF3,TF2,TF0), (TF1,TF0,TF0, TF3,TF2,TF0), (TF2,TF1,TF0,TF3,TF2,TF0), (TF3,TF2,TF0,TF3,TF2,TF0), (TF4,TF3,TF0,TF3,TF2,TF0), (TF5,TF4,TF1,TF3,TF2,TF0),  (TF0,TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF0,TF3,TF0), (TF3,TF2,TF0, TF0,TF3,TF0), (TF4,TF3,TF0,TF0,TF3,TF0), (TF5,TF4,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF1,TF3,TF0), (TF1,TF0,TF0,TF1,TF3,TF0), (TF2,TF1,TF0,TF1,TF3,TF0), (TF3,TF2,TF0,TF1,TF3,TF0), (TF4,TF3,TF0,TF1,TF3,TF0), (TF5,TF4,TF1,TF1,TF3,TF0),  (TF0,TF0,TF0,TF2,TF3,TF0), (TF1,TF0,TF0,TF2,TF3,TF0), (TF2,TF1,TF0,TF2,TF3,TF0), (TF3,TF2,TF0,TF2,TF3,TF0), (TF4,TF3,TF0,TF2,TF3,TF0), (TF5,TF4,TF1,TF2,TF3,TF0),  (TF0,TF0,TF0,TF3,TF3,TF0), (TF1,TF0,TF0, TF3,TF3,TF0), (TF2,TF1,TF0,TF3,TF3,TF0), (TF3,TF2,TF0,TF3,TF3,TF0), (TF4,TF3,TF0,TF3,TF3,TF0), (TF5,TF4,TF1,TF3,TF3,TF0),  (TF0,TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF0,TF4,TF0), (TF3,TF2,TF0, TF0,TF4,TF0), (TF4,TF3,TF0,TF0,TF4,TF0), (TF5,TF4,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF1,TF4,TF0), (TF1,TF0,TF0,TF1,TF4,TF0), (TF2,TF1,TF0,TF1,TF4,TF0), (TF3,TF2,TF0,TF1,TF4,TF0), (TF4,TF3,TF0,TF1,TF4,TF0), (TF5,TF4,TF1,TF1,TF4,TF0),  (TF0,TF0,TF0,TF2,TF4,TF0), (TF1,TF0,TF0,TF2,TF4,TF0), (TF2,TF1,TF0,TF2,TF4,TF0), (TF3,TF2,TF0,TF2,TF4,TF0), (TF4,TF3,TF0,TF2,TF4,TF0), (TF5,TF4,TF1,TF2,TF4,TF0),  (TF0,TF0,TF0,TF3,TF4,TF0), (TF1,TF0,TF0, TF3,TF4,TF0), (TF2,TF1,TF0,TF3,TF4,TF0), (TF3,TF2,TF0,TF3,TF4,TF0), (TF4,TF3,TF0,TF3,TF4,TF0), (TF5,TF4,TF1,TF3,TF4,TF0),  (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1, (TF2,TF1,TF0,TF0,TF0,TF1), (TF3,TF2,TF0, TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF0,TF1), (TF5,TF4,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF0,TF1,TF0,TF1), (TF3,TF2,TF0,TF1,TF0,TF1), (TF4,TF3,TF0,TF1,TF0,TF1), (TF5,TF4,TF1,TF1,TF0,TF1),  (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF0,TF2,TF0,TF1), (TF3,TF2,TF0,TF2,TF0,TF1), (TF4,TF3,TF0,TF2,TF0,TF1), (TF5,TF4,TF1,TF2,TF0,TF1),  (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0, TF3,TF0,TF1), (TF2,TF1,TF0,TF3,TF0,TF1), (TF3,TF2,TF0,TF3,TF0,TF1), (TF4,TF3,TF0,TF3,TF0,TF1), (TF5,TF4,TF1,TF3,TF0,TF1),  (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF0,TF1,TF1), (TF3,TF2,TF0, TF0,TF1,TF1), (TF4,TF3,TF0,TF0,TF1,TF1), (TF5,TF4,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF0,TF1,TF1,TF1), (TF3,TF2,TF0,TF1,TF1,TF1), (TF4,TF3,TF0,TF1,TF1,TF1), (TF5,TF4,TF1,TF1,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF0,TF2,TF1,TF1), (TF3,TF2,TF0,TF2,TF1,TF1), (TF4,TF3,TF0,TF2,TF1,TF1), (TF5,TF4,TF1,TF2,TF1,TF1),  (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0, TF3,TF1,TF1), (TF2,TF1,TF0,TF3,TF1,TF1), (TF3,TF2,TF0,TF3,TF1,TF1), (TF4,TF3,TF0,TF3,TF1,TF1), (TF5,TF4,TF1,TF3,TF1,TF1),  (TF0,TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF0,TF2,TF1), (TF3,TF2,TF0, TF0,TF2,TF1), (TF4,TF3,TF0,TF0,TF2,TF1), (TF5,TF4,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF1,TF2,TF1), (TF1,TF0,TF0,TF1,TF2,TF1), (TF2,TF1,TF0,TF1,TF2,TF1), (TF3,TF2,TF0,TF1,TF2,TF1), (TF4,TF3,TF0,TF1,TF2,TF1), (TF5,TF4,TF1,TF1,TF2,TF1),  (TF0,TF0,TF0,TF2,TF2,TF1), (TF1,TF0,TF0,TF2,TF2,TF1), (TF2,TF1,TF0,TF2,TF2,TF1), (TF3,TF2,TF0,TF2,TF2,TF1), (TF4,TF3,TF0,TF2,TF2,TF1), (TF5,TF4,TF1,TF2,TF2,TF1),  (TF0,TF0,TF0,TF3,TF2,TF1), (TF1,TF0,TF0, TF3,TF2,TF1), (TF2,TF1,TF0,TF3,TF2,TF1), (TF3,TF2,TF0,TF3,TF2,TF1), (TF4,TF3,TF0,TF3,TF2,TF1), (TF5,TF4,TF1,TF3,TF2,TF1),  (TF0,TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF0,TF3,TF1), (TF3,TF2,TF0, TF0,TF3,TF1), (TF4,TF3,TF0,TF0,TF3,TF1), (TF5,TF4,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF1,TF3,TF1), (TF1,TF0,TF0,TF1,TF3,TF1), (TF2,TF1,TF0,TF1,TF3,TF1), (TF3,TF2,TF0,TF1,TF3,TF1), (TF4,TF3,TF0,TF1,TF3,TF1), (TF5,TF4,TF1,TF1,TF3,TF1),  (TF0,TF0,TF0,TF2,TF3,TF1), (TF1,TF0,TF0,TF2,TF3,TF1), (TF2,TF1,TF0,TF2,TF3,TF1), (TF3,TF2,TF0,TF2,TF3,TF1), (TF4,TF3,TF0,TF2,TF3,TF1), (TF5,TF4,TF1,TF2,TF3,TF1),  (TF0,TF0,TF0,TF3,TF3,TF1), (TF1,TF0,TF0, TF3,TF3,TF1), (TF2,TF1,TF0,TF3,TF3,TF1), (TF3,TF2,TF0,TF3,TF3,TF1), (TF4,TF3,TF0,TF3,TF3,TF1), (TF5,TF4,TF1,TF3,TF3,TF1),  (TF0,TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF0,TF4,TF1), (TF3,TF2,TF0, TF0,TF4,TF1), (TF4,TF3,TF0,TF0,TF4,TF1), (TF5,TF4,TF1,TF0,TF4,TF1),  (TF0,TF0,TF0,TF1,TF4,TF1), (TF1,TF0,TF0,TF1,TF4,TF1), (TF2,TF1,TF0,TF1,TF4,TF1), (TF3,TF2,TF0,TF1,TF4,TF1), (TF4,TF3,TF0,TF1,TF4,TF1), (TF5,TF4,TF1,TF1,TF4,TF1),  (TF0,TF0,TF0,TF2,TF4,TF1), (TF1,TF0,TF0,TF2,TF4,TF1), (TF2,TF1,TF0,TF2,TF4,TF1), (TF3,TF2,TF0,TF2,TF4,TF1), (TF4,TF3,TF0,TF2,TF4,TF1), (TF5,TF4,TF1,TF2,TF4,TF1),  (TF0,TF0,TF0,TF3,TF4,TF1), (TF1,TF0,TF0, TF3,TF4,TF1), (TF2,TF1,TF0,TF3,TF4,TF1), (TF3,TF2,TF0,TF3,TF4,TF1), (TF4,TF3,TF0,TF3,TF4,TF1), (TF5,TF4,TF1,TF3,TF4,TF1) |

7.4.17.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 4 |
| Max number of DPDCH data bits/radio frame | 9600 |
| Puncturing Limit | 0.88 |

7.4.17.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] -> CS voice fehlt ! | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.17a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:128 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL: [max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384kbps plus support for 'Maximum number of TFC' = 256, DL on DPCH: 64 kbps plus support for 'Maximum number of AM entities' = 5 and ' Total RLC AM buffer size' = 50, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.17a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1]  See 7.1.96.1.1.2  6.10.2.4.1.28.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.17.1.1.5 | | | |
| Physical Channel | See 7.4.17.1.2 | | | |

7.4.17a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.18 RB for Streaming / unknown / UL:64 DL: [max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL on DPCH: 32 kbps plus support for HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.18.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | See 7.4.14.1.1.1 |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.18.1.1 | | | |
| Physical Channel | See 7.4.18.1.2 | | | |

7.4.18.1.1 Transport channel parameters

7.4.18.1.1.1 Void

7.4.18.1.1.2 Void

7.4.18.1.1.3 Void

7.4.18.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (64 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0),  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) |

7.4.18.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 1 |

7.4.18.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | See 7.4.14.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel | 6.10.2.4.1.2.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.4.19 RB for Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 64 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.19.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.9.1.1.1 of [1] 6.10.2.4.1.26.1.1.1 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.19.1.1.1 | | | |
| Physical Channel | See 7.4.19.1.2 | | | |

7.4.19.1.1 Transport channel parameters

7.4.19.1.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.4.19.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.84 |

7.4.19.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.9.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.9.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.9.1.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.20 RB for Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5, DL on DPCH: 64kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11

This is supported in Release 5.

7.4.20.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.9.1.1.1 of [1] 6.10.2.4.1.38d.1.1.2 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.20.1.1.1 | | | |
| Physical Channel | See 7.4.20.1.2 | | | |

7.4.20.1.1 Transport channel parameters

7.4.20.1.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 30 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0),(TF2,TF1,TF0,TF0,TF0),  (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0),(TF2,TF1,TF0,TF1,TF0),  (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0),(TF2,TF1,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0),(TF2,TF1,TF0,TF3,TF0),  (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0),(TF2,TF1,TF0,TF4,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1),(TF2,TF1,TF0,TF0,TF1),  (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1),(TF2,TF1,TF0,TF1,TF1),  (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1),(TF2,TF1,TF0,TF2,TF1),  (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1),(TF2,TF1,TF0,TF3,TF1),  (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1),(TF2,TF1,TF0,TF4,TF1) |

7.4.20.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.84 |

7.4.20.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.9.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.9.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.9.1.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.21 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on the UE category & RAB max. bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5, DL on DPCH: 64 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.21.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.38d.1 of [1]. | | | |
| TFCS |
| Physical Channel |

7.4.21.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.22 Conversational / unknown / UL:38.8 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

The minimum UE classes supporting this combination are UL: 64 kbps plus support of ‘Maximum number of TFC’=64, DL: 32 kbps, plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 6.

7.4.22.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 7.1.118.1.1.1  7.1.84.1.1.1 |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.22.1.1 | | | |
| Physical Channel | See 7.4.22.1.2 | | | |

7.4.22.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 54 |
| TFCS | (38.8 kbps Conversational RAB, 16+16 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0),  (TF6, TF1, TF0), (TF7, TF1, TF0), (TF8, TF1, TF0), (TF0, TF2, TF0),  (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF4, TF2, TF0), (TF5, TF2, TF0),  (TF6, TF2, TF0), (TF7, TF2, TF0), (TF8, TF2, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1),  (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1),  (TF7, TF0, TF1), (TF8, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1),  (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1),  (TF8, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1),  (TF3, TF2, TF1), (TF4, TF2, TF1), (TF5, TF2, TF1), (TF6, TF2, TF1), (TF7, TF2, TF1),  (TF8, TF2, TF1) |

7.4.22.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.96 |

7.4.22.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-DPCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-DPCH** |
| Transport Channel |  | See 7.4.22.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

7.4.22.2.1 Transport channel parameters

7.4.22.2.1.1 Transport channel parameters for HS-DSCH

7.4.22.2.1.1.1MAC-d flow parameters for conversational / unknown DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1 MAC-hs**  **(Rel-6 and later releases)** | **Alt 2 MAC-ehs**  **(Rel-7 and later releases)** |
| Higher  Layer | RAB/Signalling RB | **RAB** | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 104, 136, 152, 168, 184, 216, 288, 336(alt 328) | Flexible up to 12000 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | |
| MAC | MAC-d header, bit | 0 | |
| MAC multiplexing | N/A | |
| MAC-d PDU size, bit | 112 , 144, 160, 176, 192, 224, 296, 344(alt 336) | Flexible |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | |
| TTI | 2 ms | |
| Coding type | TC | |
| CRC, bit | 24 | |
| Applicable modulation scheme | QPSK, 16QAM | QPSK, 16QAM, 64QAM |
| Applicable with MIMO | No | Yes |

NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).

7.4.22.2.1.1.2 MAC-d flow parameters for interactive or background DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

7.4.22.2.1.1.3 MAC-d flow parameters for interactive or background DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB

See subclause 6.10.2.4.5.1.2.1.1.1 of [1].

### 7.4.23 Conversational / unknown / UL:16.8 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + interactive / background UL: 16 kbps DL:[max bit rate depending on UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

The minimum UE classes supporting this combination are UL: 64 kbps plus support of ‘Maximum number of TFC’=128, DL: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 6.

NOTE: This RAB is used for the steady-state, where the contexts of the ROHC compressor and the ROHC decompressor are already synchronized so IR packets are not transmitted.

7.4.23.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 7.1.119.1.1.1  7.1.84.1.1.1 |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.23.1.1 | | | |
| Physical Channel | See 7.4.23.1.2 | | | |

7.4.23.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 108 |
| TFCS | (16.8 kbps Conversational RAB, 16+16 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0), (TF3, TF0, TF0), (TF4, TF0, TF0),  (TF5, TF0, TF0), (TF6, TF0, TF0), (TF7, TF0, TF0), (TF8, TF0, TF0), (TF9, TF0, TF0),  (TF10, TF0, TF0), (TF11, TF0, TF0), (TF12, TF0, TF0), (TF13, TF0, TF0), (TF14, TF0, TF0),  (TF15, TF0, TF0), (TF16, TF0, TF0), (TF17, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF2, TF1, TF0), (TF3, TF1, TF0), (TF4, TF1, TF0), (TF5, TF1, TF0), (TF6, TF1, TF0),  (TF7, TF1, TF0), (TF8, TF1, TF0), (TF9, TF1, TF0), (TF10, TF1, TF0), (TF11, TF1, TF0),  (TF12, TF1, TF0), (TF13, TF1, TF0), (TF14, TF1, TF0), (TF15, TF1, TF0), (TF16, TF1, TF0), (TF17, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0), (TF2, TF2, TF0), (TF3, TF2, TF0), (TF4, TF2, TF0), (TF5, TF2, TF0), (TF6, TF2, TF0), (TF7, TF2, TF0), (TF8, TF2, TF0), (TF9, TF2, TF0), (TF10, TF2, TF0), (TF11, TF2, TF0), (TF12, TF2, TF0), (TF13, TF2, TF0), (TF14, TF2, TF0), (TF15, TF2, TF0), (TF16, TF2, TF0), (TF17, TF2, TF0), (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1), (TF3, TF0, TF1), (TF4, TF0, TF1), (TF5, TF0, TF1), (TF6, TF0, TF1), (TF7, TF0, TF1), (TF8, TF0, TF1), (TF9, TF0, TF1), (TF10, TF0, TF1), (TF11, TF0, TF1), (TF12, TF0, TF1), (TF13, TF0, TF1), (TF14, TF0, TF1), (TF15, TF0, TF1), (TF16, TF0, TF1), (TF17, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1), (TF3, TF1, TF1), (TF4, TF1, TF1), (TF5, TF1, TF1), (TF6, TF1, TF1), (TF7, TF1, TF1), (TF8, TF1, TF1), (TF9, TF1, TF1), (TF10, TF1, TF1), (TF11, TF1, TF1), (TF12, TF1, TF1), (TF13, TF1, TF1), (TF14, TF1, TF1), (TF15, TF1, TF1), (TF16, TF1, TF1), (TF17, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1), (TF2, TF2, TF1), (TF3, TF2, TF1), (TF4, TF2, TF1), (TF5, TF2, TF1), (TF6, TF2, TF1), (TF7, TF2, TF1), (TF8, TF2, TF1), (TF9, TF2, TF1), (TF10, TF2, TF1), (TF11, TF2, TF1), (TF12, TF2, TF1), (TF13, TF2, TF1), (TF14, TF2, TF1), (TF15, TF2, TF1), (TF16, TF2, TF1), (TF17, TF2, TF1) |

7.4.23.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 0.88 |

7.4.23.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-DPCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-DPCH** |
| Transport Channel |  | See 7.4.22.2.1.1 | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.24 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.24.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.8.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.24.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-DPCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-DPCH** |
| Transport Channel | 6.10.2.4.5.8.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.25 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or Background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of TFC' = 64, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.25.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | See subclause 7.1.109.1 | | | |
| TFCS |
| Physical Channel |

7.4.25.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1]  6.10.2.4.1.62.2.1.3 of [1] |  |
| TFCS | 6.10.2.4.1.62.2.1.4 of [1] | | | |
| Physical Channel | 6.10.2.4.1.62.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.62.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.4.26 RB for Interactive or background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:6.8 DL:6.8 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.26.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.26.1.1.1 of [1] |  | See 7.1.2a |  |
| TFCS | See 7.4.26.1.1 | | | |
| Physical Channel | See 7.4.26.1.2 | | | |

7.4.26.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (64 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0),  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) |

7.4.26.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2 400 |
| Puncturing Limit | 0.96 |

7.4.26.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | See 7.1.2a |  |
| TFCS | See 7.1.2a.2.1.2 | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | See 7.1.2a.2.2 |  |

### 7.4.27 RB for Interactive or background / UL:384 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:6.8 DL:6.8 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 384 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.27.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.34.1.1.1 of [1] |  | See 7.1.2a |  |
| TFCS | See 7.4.27.1.1 | | | |
| Physical Channel | See 7.4.27.1.2 | | | |

7.4.27.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 18 (alt.12) |
| TFCS | (384 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0), (TF6, TF0), (TF7, TF0), (TF8, TF0),  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1), (TF6, TF1), (TF7, TF1), (TF8, TF1)  (alt. (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0)  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1)) |

7.4.27.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 4 |
| Max number of DPDCH data bits/radio frame | 9 600 |
| Number of DPDCH | 1 |
| Puncturing Limit | 0.64 |

7.4.27.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | See 7.1.2a |  |
| TFCS | See 7.1.2a.2.1.2 | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | See 7.1.2a.2.2 |  |

### 7.4.28 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or Background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + RB for Interactive or Background / UL:64 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 'Maximum number of AM entities' = 5 and 'Maximum number of TFC' = 64, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.28.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.62.1.1.1of [1] 6.10.2.4.1.38d.1.1.2 of [1] |  | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.4.28.1.1 and 7.4.28.1.2 | | | |
| Physical Channel | See 7.4.28.1.3 | | | |

7.4.28.1.1 TFCS

|  |  |
| --- | --- |
| TFCS size | 50 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 64 kbps RAB + 64 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0),  (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1) |

7.4.28.1.2 TFC subset list

|  |  |
| --- | --- |
| TFC subset list size | 3 |
| TFC subset list | 0 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1)},  1 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1)},  2 = {(TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF0,TF0,TF0), (TF3,TF2,TF0,TF0,TF0), (TF4,TF3,TF0,TF0,TF0),(TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF0,TF0,TF1), (TF3,TF2,TF0,TF0,TF1), (TF4,TF3,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF1,TF0,TF1,TF0), (TF3,TF2,TF0,TF1,TF0), (TF4,TF3,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF1,TF0,TF1,TF1), (TF3,TF2,TF0,TF1,TF1), (TF4,TF3,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF1,TF0,TF2,TF0), (TF3,TF2,TF0,TF2,TF0), (TF4,TF3,TF0,TF2,TF0), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF1,TF0,TF2,TF1), (TF3,TF2,TF0,TF2,TF1), (TF4,TF3,TF0,TF2,TF1), (TF0,TF0,TF0,TF3,TF0), (TF1,TF0,TF0,TF3,TF0), (TF2,TF1,TF0,TF3,TF0), (TF3,TF2,TF0,TF3,TF0), (TF4,TF3,TF0,TF3,TF0), (TF0,TF0,TF0,TF3,TF1), (TF1,TF0,TF0,TF3,TF1), (TF2,TF1,TF0,TF3,TF1), (TF3,TF2,TF0,TF3,TF1), (TF4,TF3,TF0,TF3,TF1), (TF0,TF0,TF0,TF4,TF0), (TF1,TF0,TF0,TF4,TF0), (TF2,TF1,TF0,TF4,TF0), (TF3,TF2,TF0,TF4,TF0), (TF4,TF3,TF0,TF4,TF0), (TF0,TF0,TF0,TF4,TF1), (TF1,TF0,TF0,TF4,TF1), (TF2,TF1,TF0,TF4,TF1), (TF3,TF2,TF0,TF4,TF1), (TF4,TF3,TF0,TF4,TF1)} |

7.4.28.1.3 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 0.76 |

7.4.28.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1]  6.10.2.4.1.62.2.1.3 of [1] |  |
| TFCS | 6.10.2.4.1.62.2.1.4 of [1] | | | |
| Physical Channel | 6.10.2.4.1.62.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.62.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.4.29 RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + RB for Interactive or background / UL:128 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 'Maximum total number of transport blocks transmitted within TTIs that start at the same time' = 16, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.29.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | See 7.1.88.1 | | | |
| TFCS |
| Physical Channel |

7.4.29.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.30 RB for Interactive or background / UL:16 DL:[Bit rate depending on the UE category & RAB maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11.

This is supported in Release 5.

7.4.30.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.1.23b.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.30.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.4.31 RB for Streaming MBMS PTP / unkown / UL:16 DL:[max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11, and MBMS minimum capability.

This is supported in Release 6.

7.4.31.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.9.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.31.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.9.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.32 RB for Streaming MBMS PTP / unkown / UL:16 DL:[max bit rate depending on UE category & RAB guaranteed/maximum bit rate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on UE category & RAB maximum bitrate] / PS RAB + RB for Interactive or background / UL:64 DL:[max bit rate depending on UE category & RAB maximum bitrate] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH, DL on HS-PDSCH: category 11, and MBMS minimum capability.

This is supported in Release 6.

7.4.32.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.10.2.4.5.10.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.4.32.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.5.10.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.4.33 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.33.1 Uplink

See subclause 7.1.153.1

#### 7.4.33.2 Downlink

##### 7.4.33.2.1 Transport channel parameters

7.4.33.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.33.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.2.1.1

7.4.33.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.33.2.1.4 TFCS

See subclause 7.1.145.2.1.3

##### 7.4.33.2.2 Physical channel parameters

7.4.33.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.145.2.2.

7.4.33.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.34 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.34.1 Uplink

See subclause 7.1.154.1

#### 7.4.34.2 Downlink

##### 7.4.34.2.1 Transport channel parameters

7.4.34.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.34.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.2.1.1

7.4.34.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.34.2.1.4 TFCS

See subclause 7.1.146.2.1.3

##### 7.4.34.2.2 Physical channel parameters

7.4.34.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.146.2.2.

7.4.34.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.35 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.35.1 Uplink

See subclause 7.1.155.1

##### 7.4.35.1.1 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.2.4.1.23a.1.1.1 of [1].

##### 7.4.35.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

##### 7.4.35.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 8kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1) |

##### 7.4.35.1.4 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.4.35.2 Downlink

##### 7.4.35.2.1 Transport channel parameters

7.4.35.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.35.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.2.1.1

7.4.35.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.35.2.1.4 TFCS

See subclause 7.1.147.2.1.3

##### 7.4.35.2.2 Physical channel parameters

7.4.35.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.147.2.2.

7.4.35.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.36 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:8 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.36.1 Uplink

See subclause 7.1.ll.1

#### 7.4.36.2 Downlink

##### 7.4.36.2.1 Transport channel parameters

7.4.36.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.36.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 24.4 16.2 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.2.1.1

7.4.36.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.36.2.1.4 TFCS

See subclause 7.1.148.2.1.3

##### 7.4.36.2.2 Physical channel parameters

7.4.36.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.148.2.2.

7.4.36.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.37 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.37.1 Uplink

##### 7.4.37.1.1 Transport channel parameters

7.4.37.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.1.1.1

7.4.37.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See subclause 6.10.2.4.1.23b.1.1.1 of [1].

7.4.37.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

##### 7.4.37.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF0,TF0,TF2,TF0), (TF3,TF0,TF0,TF2,TF0), (TF4,TF0,TF0,TF2,TF0), (TF5,TF0,TF0,TF2,TF0), (TF6,TF0,TF0,TF2,TF0), (TF7,TF0,TF0,TF2,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF0,TF0,TF2,TF1), (TF3,TF0,TF0,TF2,TF1), (TF4,TF0,TF0,TF2,TF1), (TF5,TF0,TF0,TF2,TF1), (TF6,TF0,TF0,TF2,TF1), (TF7,TF0,TF0,TF2,TF1) |

##### 7.4.37.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.4.37.2 Downlink

##### 7.4.37.2.1 Transport channel parameters

7.4.37.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.37.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB

See subclause 7.1.145.2.1.1

7.4.37.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.37.2.1.4 TFCS

See subclause 7.1.145.2.1.3

##### 7.4.37.2.2 Physical channel parameters

7.4.37.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.145.2.2.

7.4.37.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.38 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.38.1 Uplink

##### 7.4.38.1.1 Transport channel parameters

7.4.38.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.1.1.1

7.4.38.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See subclause 6.10.2.4.1.23b.1.1.1 of [1].

7.4.38.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.4.38.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 54 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF0,TF0,TF2,TF0), (TF3,TF0,TF0,TF2,TF0), (TF4,TF0,TF0,TF2,TF0), (TF5,TF0,TF0,TF2,TF0), (TF6,TF0,TF0,TF2,TF0), (TF7,TF0,TF0,TF2,TF0), (TF8,TF0,TF0,TF2,TF0),  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF0,TF0,TF2,TF1), (TF3,TF0,TF0,TF2,TF1), (TF4,TF0,TF0,TF2,TF1), (TF5,TF0,TF0,TF2,TF1), (TF6,TF0,TF0,TF2,TF1), (TF7,TF0,TF0,TF2,TF1), (TF8,TF0,TF0,TF2,TF1) |

##### 7.4.38.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.4.38.2 Downlink

##### 7.4.38.2.1 Transport channel parameters

7.4.38.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.38.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.2.1.1

7.4.38.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.38.2.1.4 TFCS

See subclause 7.1.146.2.1.3

##### 7.4.38.2.2 Physical channel parameters

7.4.38.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.146.2.2.

7.4.38.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.39 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.39.1 Uplink

##### 7.4.39.1.1 Transport channel parameters

7.4.39.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.1.1.1

7.4.39.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See subclause 6.10.2.4.1.23b.1.1.1 of [1].

7.4.39.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.4.39.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 72 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF0,TF0,TF2,TF0), (TF3,TF0,TF0,TF2,TF0), (TF4,TF0,TF0,TF2,TF0), (TF5,TF0,TF0,TF2,TF0), (TF6,TF0,TF0,TF2,TF0), (TF7,TF0,TF0,TF2,TF0), (TF8,TF0,TF0,TF2,TF0), (TF9,TF0,TF0,TF2,TF0), (TF10,TF0,TF0,TF2,TF0), (TF11,TF0,TF0,TF2,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF0,TF0,TF2,TF1), (TF3,TF0,TF0,TF2,TF1), (TF4,TF0,TF0,TF2,TF1), (TF5,TF0,TF0,TF2,TF1), (TF6,TF0,TF0,TF2,TF1), (TF7,TF0,TF0,TF2,TF1), (TF8,TF0,TF0,TF2,TF1), (TF9,TF0,TF0,TF2,TF1), (TF10,TF0,TF0,TF2,TF1), (TF11,TF0,TF0,TF2,TF1) |

##### 7.4.39.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 32 |
| Max number of DPDCH data bits/radio frame | 1200 |
| Puncturing Limit | 1 |

#### 7.4.39.2 Downlink

##### 7.4.39.2.1 Transport channel parameters

7.4.39.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.39.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.2.1.1

7.4.39.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.39.2.1.4 TFCS

See subclause 7.1.147.2.1.3

##### 7.4.39.2.2 Physical channel parameters

##### 7.4.39.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.147.2.2.

7.4.39.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

### 7.4.40 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL:16 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

#### 7.4.40.1 Uplink

##### 7.4.40.1.1 Transport channel parameters

7.4.40.1.1.1 Transport channel parameters for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.1.1.1

7.4.40.1.1.2 Transport channel parameters for Interactive or background / UL:16 kbps / PS RAB

See subclause 6.10.2.4.1.23b.1.1.1 of [1].

7.4.40.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.4.40.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 84 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF0,TF0,TF0,TF0), (TF3,TF0,TF0,TF0,TF0), (TF4,TF0,TF0,TF0,TF0), (TF5,TF0,TF0,TF0,TF0), (TF6,TF0,TF0,TF0,TF0), (TF7,TF0,TF0,TF0,TF0), (TF8,TF0,TF0,TF0,TF0), (TF9,TF0,TF0,TF0,TF0), (TF10,TF0,TF0,TF0,TF0), (TF11,TF0,TF0,TF0,TF0), (TF12,TF0,TF0,TF0,TF0), (TF13,TF0,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF1,TF0), (TF2,TF0,TF0,TF1,TF0), (TF3,TF0,TF0,TF1,TF0), (TF4,TF0,TF0,TF1,TF0), (TF5,TF0,TF0,TF1,TF0), (TF6,TF0,TF0,TF1,TF0), (TF7,TF0,TF0,TF1,TF0), (TF8,TF0,TF0,TF1,TF0), (TF9,TF0,TF0,TF1,TF0), (TF10,TF0,TF0,TF1,TF0), (TF11,TF0,TF0,TF1,TF0), (TF12,TF0,TF0,TF1,TF0), (TF13,TF0,TF0,TF1,TF0), (TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF2,TF0), (TF2,TF0,TF0,TF2,TF0), (TF3,TF0,TF0,TF2,TF0), (TF4,TF0,TF0,TF2,TF0), (TF5,TF0,TF0,TF2,TF0), (TF6,TF0,TF0,TF2,TF0), (TF7,TF0,TF0,TF2,TF0), (TF8,TF0,TF0,TF2,TF0), (TF9,TF0,TF0,TF2,TF0), (TF10,TF0,TF0,TF2,TF0), (TF11,TF0,TF0,TF2,TF0), (TF12,TF0,TF0,TF2,TF0), (TF13,TF0,TF0,TF2,TF0)  (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF0,TF0,TF0,TF1), (TF3,TF0,TF0,TF0,TF1), (TF4,TF0,TF0,TF0,TF1), (TF5,TF0,TF0,TF0,TF1), (TF6,TF0,TF0,TF0,TF1), (TF7,TF0,TF0,TF0,TF1), (TF8,TF0,TF0,TF0,TF1), (TF9,TF0,TF0,TF0,TF1), (TF10,TF0,TF0,TF0,TF1), (TF11,TF0,TF0,TF0,TF1), (TF12,TF0,TF0,TF0,TF1), (TF13,TF0,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF1,TF1), (TF2,TF0,TF0,TF1,TF1), (TF3,TF0,TF0,TF1,TF1), (TF4,TF0,TF0,TF1,TF1), (TF5,TF0,TF0,TF1,TF1), (TF6,TF0,TF0,TF1,TF1), (TF7,TF0,TF0,TF1,TF1), (TF8,TF0,TF0,TF1,TF1), (TF9,TF0,TF0,TF1,TF1), (TF10,TF0,TF0,TF1,TF1), (TF11,TF0,TF0,TF1,TF1), (TF12,TF0,TF0,TF1,TF1), (TF13,TF0,TF0,TF1,TF1), (TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF2,TF1), (TF2,TF0,TF0,TF2,TF1), (TF3,TF0,TF0,TF2,TF1), (TF4,TF0,TF0,TF2,TF1), (TF5,TF0,TF0,TF2,TF1), (TF6,TF0,TF0,TF2,TF1), (TF7,TF0,TF0,TF2,TF1), (TF8,TF0,TF0,TF2,TF1), (TF9,TF0,TF0,TF2,TF1), (TF10,TF0,TF0,TF2,TF1), (TF11,TF0,TF0,TF2,TF1), (TF12,TF0,TF0,TF2,TF1), (TF13,TF0,TF0,TF2,TF1) |

##### 7.4.40.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Min spreading factor | 16 |
| Max number of DPDCH data bits/radio frame | 2400 |
| Puncturing Limit | 1 |

#### 7.4.40.2 Downlink

##### 7.4.40.2.1 Transport channel parameters

7.4.40.2.1.1 Transport channel parameters for HS-DSCH

See subclause 6.10.2.4.5.1.2.1.1 of [1].

7.4.40.2.1.2 Transport channel parameters for Conversational / speech / DL: (EVS 24.4 16.2 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.2.1.1

7.4.40.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.2.1.1 of [1].

7.4.40.2.1.4 TFCS

See subclause 7.1.148.2.1.3

##### 7.4.40.2.2 Physical channel parameters

7.4.40.2.2.1 Physical channel parameters on DPCH

See subclause 7.1.148.2.2.

7.4.40.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1].

## 7.5 Radio Bearer and Radio Bearer Combinations on E-DPDCH and HS-PDSCH

In the following tables for the references to [1], the details of the configuration are defined there.

### 7.5.1 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.1.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.6.1.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.5.1.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.1.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.2 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.2.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.6.2.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.5.2.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.2.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.3 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.3.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.6.3.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.5.3.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.3.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.4 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.4.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.6.4.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.5.4.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.4.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.5 Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.5.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.6.5.1 of [1] | | | |
| TFCS |
| Physical Channel |

7.5.5.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.5.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.6 Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.6.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.5.1.1.1 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.1.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.6.5.1.2.1 of [1] | 6.10.2.4.1.2.1.2 of [1] |  |

7.5.6.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.6.5.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 7.5.7 Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.7.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.62.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.62.1.1.3 of [1] | | | |
| TFC subset list | 6.10.2.4.1.62.1.1.4 of [1] | | | |
| Physical Channel | 6.10.2.4.1.62.1.2 of [1] | 6.10.2.4.6.5.1.2.1 of [1] | 6.10.2.4.1.62.1.2 of [1]  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.7.2 Downlink

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1]  6.10.2.4.1.62.2.1.3 of [1] | |  |
| TFCS | 6.10.2.4.1.62.2.1.4 of [1] | | | | |
| Physical Channel | 6.10.2.4.1.62.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.62.2.2 of [1]  *See NOTE* |  | |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.5.8 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 64 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.8.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.13.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.13.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.13.1.2 of [1] | 6.10.2.4.6.5.1.2.1 of [1] | 6.10.2.4.1.13.1.2 of [1]  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.8.2 Downlink

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.13.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] | |  |
| TFCS | 6.10.2.4.1.13.2.1.3 of [1] | | | | |
| Physical Channel | 6.10.2.4.1.13.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.13.2.2 of [1]  *See NOTE* |  | |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.5.9 Conversational / speech / UL:(5.9, 4.75) DL:( 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.9.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 7.1.12a.1.1 | 6.10.2.4.6.5.1.1.1 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 7.1.12a.1.1.3 | | | |
| Physical Channel | 6.10.2.4.1.9.1.2 of [1] | 6.10.2.4.6.5.1.2.1 of [1] | 6.10.2.4.1.9.1.2of [1]  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.9.2 Downlink

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 7.1.12a.2.1 | 6.10.2.4.5.1.2.1.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] | |  |
| TFCS | 7.1.12a.2.1.3 | | | | |
| Physical Channel | 6.10.2.4.1.9.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.9.2.2 of [1]  *See NOTE* |  | |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

### 7.5.10 UL: [max bit rate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.10.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  |  |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1] E-TFCI table index = 0; E-DCH minimum set E-TFCI = 9 (10 ms TTI) or 10 (2 ms TTI) (TB size 166 bits) | | | |

7.5.10.1.1 Transport channel parameters

7.5.10.1.1.1 Transport channel parameters for E-DCH

7.5.10.1.1.1.1 MAC-d flow#1 parameters for UL: [max bit rate depending on UE category and TTI] (non-scheduled) on E-DCH SRBs for DCCH

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| RLC | Logical channel type | DCCH | DCCH | DCCH | DCCH |
| RLC mode | UM | AM | AM | AM |
| Payload sizes, bit | 136 | 128 | 128 | 128 |
| Max data rate, bps | Depends on UE category and TTI | | | |
| AMD/UMD PDU header, bit | 8 | 16 | 16 | 16 |
| MAC | MAC-e multiplexing | 4 logical channel multiplexing | | | |
| MAC-d PDU size, bit | 144 | | | |
| Max MAC-e PDU content size, bit | 162 (non-scheduled) (NOTE1) | | | |
| MAC-e/es header fixed part, bit | 18 | | | |
| Layer 1 | TrCH type | E-DCH | | | |
| TTI | 10ms (alt. 2ms) (NOTE2) | | | |
| Coding type | TC | | | |
| CRC, bit | 24 | | | |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE2: The support of 2ms TTI depends on the UE category. | | | | | |

7.5.10.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  |  |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1]  The physical channel configuration shall use F-DPCH. | | | |

### 7.5.11 RB for interactive or background / UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL: [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.11.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.1.1.1.1.1 of [1] |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1]  E-TFCI table index = 0; E-DCH minimum set E-TFCI = 9 (10 ms TTI) or 10 (2 ms TTI) (TB size 166 bits) | | | |

Note: MAC-e multiplexing of scheduled and non-scheduled MAC-d flows is allowed

7.5.11.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1] The physical channel configuration shall use F-DPCH. | | | |

### 7.5.12 RB for Conversational / unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.12.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.6.3.1.1.1.1 for conversational RB,  6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1]  E-TFCI table index = 0; E-DCH minimum set E-TFCI = = 29 (10 ms TTI, TB size 374 bits) or 32 (2 ms TTI, TB size 368 bits) | | | |

NOTE: MAC-e multiplexing of scheduled and non-scheduled MAC-d flows is allowed.

7.5.12.1.1 Transport channel parameters

7.5.12.1.1.1 Transport channel parameters for E-DCH

7.5.12.1.1.1.1 MAC-d flow#1 parameters for conversational / Unknown UL: [max bit rate depending on UE category and TTI] on E-DCH / PS RAB

|  |  |  |
| --- | --- | --- |
| Higher layer | RAB/Signalling RB | RAB |
| PDCP | PDCP header size, bit | 0 |
| RLC | Logical channel type | DTCH |
| RLC mode | UM |
| Payload sizes, bit | 88, 104, 136, 152, 168, 184, 200, 216, 280, 288, 304, 336 (alt 328) |
| Max data rate, bps | Depends on UE category and TTI |
| UMD PDU header, bit | 8 |
| MAC | MAC-e multiplexing | N/A |
| MAC-d PDU size, bit | 96, 112, 144, 160, 176, 192, 208, 224, 288, 296, 312, 344 (alt 336) |
| Max MAC-e PDU content size, bit | (non-scheduled) (NOTE1) |
| MAC-e/es header fixed part, bit | 18 |
| Layer 1 | TrCH type | E-DCH |
| TTI | 10ms (alt. 2ms) (NOTE2) |
| Coding type | TC |
| CRC, bit | 24 |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE2: The support of 2ms TTI depends on the UE category. | | |

7.5.12.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.4.22.2.1.1.1 for Conversational RB  6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1] The physical channel configuration shall use F-DPCH. | | | |

### 7.5.13 RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.13.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.6.3.1.1.1.1 for Conversational RB  6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1]  E-TFCI table index = 0; E-DCH minimum set E-TFCI = = 29 (10 ms TTI, TB size 374 bits) or 32 (2 ms TTI, TB size 368 bits) | | | |

NOTE: MAC-e multiplexing of scheduled and non-scheduled MAC-d flows is allowed.

7.5.13.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.4.22.2.1.1.1 for Conversational RB 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RB |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1] The physical channel configuration shall use F-DPCH. | | | |

### 7.5.14 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.14.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.14.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.14a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.14a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.14a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.15 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH + DL:0.15 kbps SRB#5 for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.15.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.62.1.1.1of [1] | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.62.1.1.3 of [1] | | | |
| TFC subset list | 6.10.2.4.1.62.1.1.4 of [1] | | | |
| Physical Channel | 6.10.2.4.1.62.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.62.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.15.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1]  6.10.2.4.1.62.2.1.3 of [1] |  |
| TFCS | 6.10.2.4.1.62.2.1.4 of [1] | | | |
| Physical Channel | 6.10.2.4.1.62.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.62.2.2* *of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.16 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.16.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.1.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] | 6.10.2.4.1.2.1.2 of [1] |  |

7.5.16.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.5.17 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.17.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.17.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | 6.10.2.4.5.6.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.6.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.17a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.17a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1] | 6.10.2.4.6.5.1.1.1.1 of [1]  6.10.2.4.6.5.1.1.1.2 of [1] | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.17a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | 6.10.2.4.5.6.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.6.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.18 RB for Conversational / Speech UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.18.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Radio Bearer on DPCH | Radio Bearer on E-DCH | Signalling Radio Bearer on DPCH | Signalling Radio Bearer on E-DCH |
| Transport Channel |  | 7.5.12.1.1.1.1 for Conversational RBs  RBs (MAC-e muxed)  6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs  RBs (MAC-e muxed) |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1]  E-TFCI table index = 0; E-DCH minimum set E-TFCI = 29 (10 ms TTI, TB size 374 bits) or 32 (2 ms TTI, TB size 368 bits) | | | |

NOTE: MAC-e multiplexing of scheduled and non-scheduled MAC-d flows is allowed.

7.5.18.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Radio Bearer on DPCH | Radio Bearer on HS-PDSCH | Signalling Radio Bearer on DPCH | Signalling Radio Bearer on HS-PDSCH |
| Transport Channel |  | 7.4.22.2.1.1.1 for Conversational RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1]  The physical channel configuration shall use F-DPCH. | | | |

### 7.5.19 RB for Conversational / Speech UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for Conversational / Unknown UL: [max bitrate depending on UE category and TTI] on E-DCH DL: [max bitrate depending on UE category] on HS-DSCH / PS RAB + RB for interactive or background / UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bitrate depending on UE category] on HS-DSCH / PS RAB + UL : [max bitrate depending on UE category and TTI] on E-DCH DL : [max bit rate depending on UE category] on HS-DSCH SRBs for DCCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DPDCH, UL on E-DPDCH category 1.

This is supported in Release 6.

7.5.19.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Radio Bearer on DPCH | Radio Bearer on E-DCH | Signalling Radio Bearer on DPCH | Signalling Radio Bearer on E-DCH |
| Transport Channel |  | 7.5.12.1.1.1.1 for Conversational RBs  RBs (MAC-e muxed)  6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RB |  | 7.5.10.1.1.1.1 |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.6.1.1.2.1 of [1]  E-TFCI table index = 0; E-DCH minimum set E-TFCI = 29 (10 ms TTI, TB size 374 bits) or 32 (2 ms TTI, TB size 368 bits) | | | |

NOTE: MAC-e multiplexing of scheduled and non-scheduled MAC-d flows is allowed.

7.5.19.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Radio Bearer on DPCH | Radio Bearer on HS-PDSCH | Signalling Radio Bearer on DPCH | Signalling Radio Bearer on HS-PDSCH |
| Transport Channel |  | 7.4.22.2.1.1.1 for Conversational RBs 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RB |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel | 6.10.2.4.5.1.2.2.2 of [1]  The physical channel configuration shall use F-DPCH. | | | |

### 7.5.20 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.20.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.20.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.21 RB for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.21.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.21.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.22 RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.22.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.1.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] | 6.10.2.4.1.2.1.2 of [1] |  |

7.5.22.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.2.2.2 of [1] |  |

### 7.5.23 RB for Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.23.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4a.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.23.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4a.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.23a RB for Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.23a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.4b.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.1.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.1.2 of [1] | 6.10.2.4.6.1.1.2.1 of [1] | *6.10.2.4.1.4a.1.2 of [1]*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.23a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4b.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4a.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4a.2.2 of [1] | 6.10.2.4.5.1.2.2.2 of [1] | *6.10.2.4.1.4a.2.2 of [1] See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.24 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.24.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.62.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.1.106.1.1.3 | | | |
| Physical Channel | See 7.1.106.1.2 | 6.10.2.4.6.1.1.2.1 of [1] | *See 7.1.106.1.2*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.24.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1 of [1] | 6.10.2.4.5.5.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | See 7.1.106.2.1.3 | | | |
| Physical Channel | See 7.1.106.2.2 | 6.10.2.4.5.1.2.2.2 of [1] | *See 7.1.106.2.2*  *See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.25 RB for Conversational / speech / UL:(12.65 8.85 6.6) DL:(12.65 8.85 6.6) kbps / CS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + RB for Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.25.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel | 6.10.2.4.1.62.1.1.1 of [1] | 6.10.2.4.6.1.1.1.1.1 of [1] for Interactive/Background RBs (MAC-e muxed) | 6.10.2.4.1.2.1.1.1 of [1] |  |
| TFCS | See 7.1.106.1.1.3 | | | |
| Physical Channel | See 7.1.106.1.2 | 6.10.2.4.6.1.1.2.1 of [1] | *See 7.1.106.1.2*  *See NOTE* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH.

7.5.25.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.62.2.1.1 of [1] | 6.10.2.4.5.1.2.1.1.1 of [1] for Interactive/Background RBs | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | See 7.1.106.2.1.3 | | | |
| Physical Channel | See 7.1.106.2.2 | 6.10.2.4.5.1.2.2.2 of [1] | *See 7.1.106.2.2*  *See NOTE.* |  |

NOTE: Already included in Physical Channel Definition of Radio Bearer on DPCH

### 7.5.26 UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH + DCH 3.4kbps

The minimum UE classes supporting this combination are UL: 12 kbps, DL on DPCH: 12 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6 onwards.

7.5.26.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  |  |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  |  |  | 6.10.2.4.6.1.1.2.1 of [1] |

7.5.26.2 Downlink

7.5.26.2.1 Transport channel parameters for SRBs mapped on “DCH + HS-DSCH”

There is only one configuration for RLC and Mac-d that is mapped to the transport channel type “DCH + HS-DSCH”.

7.5.26.2.1.1 RLC and Mac-d Parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH + DCH 3.4kbps

Alternative 1: Fixed RLC + MAC-hs (Rel-6 and later releases):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| RLC | Logical channel type | DCCH | DCCH | DCCH | DCCH |
| RLC mode | UM | AM | AM | AM |
| Payload sizes, bit | 136 | 128 | 128 | 128 |
| Max data rate, bps | On HS-DSCH : Depends on UE category (NOTE 1)  On DCH : 3.4kbps | | | |
| AMD PDU header, bit | 8 | 16 | 16 | 16 |
| MAC-d | MAC-d header, bit | 4 | 4 | 4 | 4 |
| MAC multiplexing | 4 logical channel multiplexing | | | |
| MAC-d PDU size, bit | 148 | | | |
| MAC-hs Type | MAC-hs | | | |
| MAC-hs/ehs header fixed part, bit | 21 | | | |
| NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs PDU (see 3GPP TS 25.321 [38]). | | | | | |

Alternative 2: Fixed RLC + MAC-ehs (Rel-7 and later releases):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | SRB#1 | SRB#2 | SRB#3 | SRB#4 |
| RLC | Logical channel type | DCCH | DCCH | DCCH | DCCH |
| RLC mode | UM | AM | AM | AM |
| Payload sizes, bit | 136 | 128 | 128 | 128 |
| Max data rate, bps | On HS-DSCH : Depends on UE category (NOTE 1)  On DCH : 3.4kbps | | | |
| AMD PDU header, bit | 8 | 16 | 16 | 16 |
| MAC-d | MAC-d header, bit | 0 | 0 | 0 | 0 |
| MAC multiplexing | 4 logical channel multiplexing | | | |
| MAC-d PDU size, bit | 144 | | | |
| MAC-hs Type | MAC-ehs | | | |
| MAC-hs/ehs header fixed part, bit | 24 | | | |
| NOTE 1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-ehs PDU (see 3GPP TS 25.321 [38]). | | | | | |

7.5.26.2.1.2 Layer 1 parameters for DL SRBs for DCH 3.4kbps

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 148 (alt 0, 148) (note 2) | |
| TFS | TF0, bits | 0x148 (alt 1x0) (note 2) | |
| TF1, bits | 1x148 | |
| TTI | | 40 | |
| Coding type | | CC 1/3 | |
| CRC, bit | | 16 | |
| Max number of bits/TTI before rate matching | | 516 | |
| RM attribute | | 155 to 230 | |
| NOTE 2: alternative parameters enable the measurement "transport channel BLER" in the UE. | | | |  |

7.5.26.2.1.3 Mac-hs and layer 1 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

Alternative 1: Fixed RLC + MAC-hs (Rel-6 and later releases):

|  |  |  |
| --- | --- | --- |
| MAC-hs | MAC-hs header fixed part, bit | 21 |
| Layer 1 | TrCH type | HS-DSCH |
| TTI | 2 ms |
| Coding type | TC |
| CRC, bit | 24 |
| Applicable modulation scheme | QPSK, 16QAM |
| Applicable with MIMO | No |

Alternative 2: Fixed RLC + MAC-ehs (Rel-7 and later releases):

|  |  |  |
| --- | --- | --- |
| MAC-ehs | MAC-ehs header fixed part, bit | 24 |
| Layer 1 | TrCH type | HS-DSCH |
| TTI | 2 ms |
| Coding type | TC |
| CRC, bit | 24 |
| Applicable modulation scheme | QPSK, 16QAM, 64QAM |
| Applicable with MIMO | Yes |

7.5.26.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 2 |
| TFCS | SRBs for DCCH = TF0, TF1 |

7.5.26.2.2 Physical channel parameters

7.5.26.2.2.1 Physical channel parameters on DPCH

See subclause 6.10.2.4.1.2.2.2 of [1]

7.5.26.2.2.2 Physical channel parameters on HS-PDSCH

See subclause 6.10.2.4.5.1.2.2.2 of [1]

### 7.5.27 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:13.6 DL:13.6kbps SRBs for DCCH on DCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL on DPCH: 32 kbps plus support of HS-PDSCH and support of E-DCH, HS-PDSCH: category 11, E-DCH: category 1.

This is supported in Release 6.

7.5.27.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.1.1.1.1 of [1] | 6.10.2.4.1.3.1.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.3.1.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] | 6.10.2.4.1.3.1.2 of [1] |  |

7.5.27.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.5.1.2.1.1 of [1] | 6.10.2.4.1.3.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.3.2.1.2 of [1] | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] | 6.10.2.4.1.3.2.2 of [1] |  |

### 7.5.28 Conversational / speech / UL: 12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.28.1 Uplink

7.5.28.1.1 Transport channel parameters

7.5.28.1.1.1 Transport channel parameters for E-DCH

7.5.28.1.1.1.1 MAC-d flow#1 parameters for Conversational / speech / UL: 12.2 kbps / CS RAB (non-scheduled)

|  |  |  |
| --- | --- | --- |
| Higher layer | RAB/Signalling RB | RAB |
| PDCP | Header size, bit | 8 |
| RLC | Logical channel type | DTCH |
| RLC mode | UM |
| Payload sizes, bit | 48, 256 |
| Max data rate, bps | Depends on UE category and TTI |
| UMD PDU header, bit | 8 |
| MAC | MAC multiplexing | N/A |
| MAC-d PDU size, bit | 56, 264 (non-scheduled) NOTE1 |
| MAC-e/es header fixed part, bit | 18 |
| Layer 1 | TrCH type | E-DCH |
| TTI | 10ms (alt. 2ms) (NOTE2) |
| Coding type | TC |
| CRC, bit | 24 |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE2: The support of 2ms TTI depends on the UE category. | | |

7.5.28.1.1.1.2 MAC-d flow #2 parameters for UL: [max bit rate depending on UE category and TTI] sSRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.28.1.2 Physical channel parameters

7.5.28.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.28.2 Downlink

7.5.28.2.1 Transport channel parameters

7.5.28.2.1.1 Transport channel parameters for HS-DSCH

7.5.28.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL: 12.2 kbps / CS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1**  **RLC + MAC-hs**  **(Rel-5 and later releases)** | **Alt 2**  **RLC + MAC-ehs**  **(Rel-7 and later releases)** |
| Higher  Layer | RAB/Signalling RB | **RAB** | |
| PDCP | Header size, bit | 8 | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 48, 256 | 48, 256 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | 8 |
| MAC | MAC-d header, bit | 0 | 0 |
| MAC multiplexing | N/A | N/A |
| MAC-d PDU size, bit | 56, 264 | 56, 264 |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | HS-DSCH |
| TTI | 2 ms | 2 ms |
| Coding type | TC | TC |
| CRC, bit | 24 | 24 |
| Applicable modulation schemes | QPSK,  16QAM | QPSK,  16QAM, 64QAM |
| Applicable with MIMO | No | Yes |
| NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]). | | | |

7.5.28.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.28.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.28.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.29 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.29.1 Uplink

7.5.29.1.1 Transport channel parameters

7.5.29.1.1.1 Transport channel parameters for E-DCH

7.5.29.1.1.1.1 MAC-d flow#1 parameters for Conversational / speech / UL:( 5.9, 4.75) kbps / CS RAB (non-scheduled)

|  |  |  |
| --- | --- | --- |
| Higher layer | RAB/Signalling RB | RAB |
| PDCP | Header size, bit | 8 |
| RLC | Logical channel type | DTCH |
| RLC mode | UM |
| Payload sizes, bit | 48, 104, 128 |
| Max data rate, bps | Depends on UE category and TTI |
| UMD PDU header, bit | 8 |
| MAC | MAC multiplexing | N/A |
| MAC-d PDU size, bit | 56, 112, 136 (non-scheduled) NOTE1 |
| MAC-e/es header fixed part, bit | 18 |
| Layer 1 | TrCH type | E-DCH |
| TTI | 10ms (alt. 2ms) (NOTE2) |
| Coding type | TC |
| CRC, bit | 24 |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE2: The support of 2ms TTI depends on the UE category. | | |

7.5.29.1.1.1.2 MAC-d flow #2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.29.1.2 Physical channel parameters

7.5.29.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.29.2 Downlink

7.5.29.2.1 Transport channel parameters

7.5.29.2.1.1 Transport channel parameters for HS-DSCH

7.5.29.2.1.1.1 MAC-d flow #1 parameters for Conversational / speech / DL:( 5.9, 4.75) kbps / CS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1**  **RLC + MAC-hs**  **(Rel-5 and later releases)** | **Alt 2**  **RLC + MAC-ehs**  **(Rel-7 and later releases)** |
| Higher  Layer | RAB/Signalling RB | **RAB** | |
| PDCP | Header size, bit | 8 | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 48, 104, 128 | 48, 104, 128 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | 8 |
| MAC | MAC-d header, bit | 0 | 0 |
| MAC multiplexing | N/A | N/A |
| MAC-d PDU size, bit | 56, 112, 136 | 56, 112, 136 |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | HS-DSCH |
| TTI | 2 ms | 2 ms |
| Coding type | TC | TC |
| CRC, bit | 24 | 24 |
| Applicable modulation schemes | QPSK,  16QAM | QPSK,  16QAM, 64QAM |
| Applicable with MIMO | No | Yes |
| NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]). | | | |

7.5.29.2.1.1.2 MAC-d flow #2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.29.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.29.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.30 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.30.1 Uplink

7.5.30.1.1 Transport channel parameters

7.5.30.1.1.1 Transport channel parameters for E-DCH

7.5.30.1.1.1.1 MAC-d flow #1 parameters for Conversational / speech / UL:(12.2, 7,75, 5.9, 4.75) kbps / CS RAB (non-scheduled)

See clause 6.10.2.4.6.9.1.1.1.1 of [1].

7.5.30.1.1.1.2 MAC-d flow #2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.30.1.2 Physical channel parameters

7.5.30.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.30.2 Downlink

7.5.30.2.1 Transport channel parameters

7.5.30.2.1.1 Transport channel parameters for HS-DSCH

7.5.30.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(12.2, 7,75, 5.9, 4.75) kbps / CS RAB

See clause 6.10.2.4.6.9.2.1.1.1 of [1].

7.5.30.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.30.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.30.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.30a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.30a.1 Uplink

7.5.30a.1.1 Transport channel parameters

7.5.30a.1.1.1 Transport channel parameters for E-DCH

7.5.30a.1.1.1.1 MAC-d flow #1 parameters for Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps / CS RAB (non-scheduled)

|  |  |  |  |
| --- | --- | --- | --- |
|  | | **Alt 1**  **Fixed RLC + MAC-e/es (Rel-6 and later)**  **NOTE 3** | **Alt 2**  **Flexible RLC + MAC-i/is (Rel-8 and later releases)**  **NOTE 3** |
| Higher layer | RAB/Signalling RB | RAB | |
| PDCP | Header size, bit | 8 | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 48, 104, 128, 160, 256 | Flexible from 48 up to up to 12000  (NOTE 4) |
| Max data rate, bps | Depends on UE category and TTI | |
| UMD PDU header, bit | 8 | |
| MAC | MAC multiplexing | N/A | |
| MAC-d PDU size, bit | 56, 112, 136, 168, 264 (non-scheduled) NOTE1 | Flexible |
| MAC type | MAC-e/es | MAC-i/is |
| MAC-e/es / MAC-i/is header fixed part, bit | 18 | 24 |
| Layer 1 | TrCH type | E-DCH | |
| TTI | 10ms (alt. 2ms) (NOTE 2) | |
| Coding type | TC | |
| CRC, bit | 24 | |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE 2: The support of 2ms TTI depends on the UE category  NOTE 3: Alternative 1 with Fixed RLC + MAC-e/es is the default configuration. For test cases that use alternative 2 (Flexible RLC + MAC-i/is) then this shall be explicitly stated in the test case.  NOTE 4: The Maximum RLC payload size for Flexible RLC is 12024 bits (1503 octets, ref: TS 25.322 clause 9.2.2.9). The maximum SDU size above PDCP layer is limited to 12000 bits (1500 octets limit in QoS parameter “Max SDU size”, ref: TS 24.008 clause 10.5.6.5). As no PDCP header is used in this radio bearer configuration then the RLC payload size has been limited to 12000 bits. | | | |

7.5.30a.1.1.1.2 MAC-d flow #2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.30a.1.2 Physical channel parameters

7.5.30a.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.30a.2 Downlink

7.5.30a.2.1 Transport channel parameters

7.5.30a.2.1.1 Transport channel parameters for HS-DSCH

7.5.30a.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(12.2, 7.4, 5.9, 4.75) kbps / CS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1**  **RLC + MAC-hs**  **(Rel-5 and later releases)**  **NOTE2** | **Alt 2**  **RLC + MAC-ehs**  **(Rel-7 and later releases)**  **NOTE2** |
| Higher  Layer | RAB/Signalling RB | RAB | |
| PDCP | Header size, bit | 8 | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 48, 104, 128, 160, 256 | 48, 104, 128, 160, 256 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | 8 |
| MAC | MAC-d header, bit | 0 | 0 |
| MAC multiplexing | N/A | N/A |
| MAC-d PDU size, bit | 56, 112, 136, 168, 264 | 56, 112, 136, 168, 264 |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | HS-DSCH |
| TTI | 2 ms | 2 ms |
| Coding type | TC | TC |
| CRC, bit | 24 | 24 |
| Applicable modulation schemes | QPSK,  16QAM | QPSK,  16QAM, 64QAM |
| Applicable with MIMO | No | Yes |
| Applicable with Dual-Cell HSDPA | No | Yes |
| NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]).  NOTE2: Alternative 1 with Fixed RLC + MAC-hs is the default configuration. For test cases that use alternative 2 (Fixed RLC + MAC-ehs) then this shall be explicitly stated in the test case. | | | |

7.5.30a.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.30a.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.30a.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.31 Conversational / speech / UL:(12.65, 8.85, 6.6) kbps DL: (12.65, 8.85, 6.6) kbps / CS RAB on E-DCH and HS-DSCH + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.31.1 Uplink

7.5.31.1.1 Transport channel parameters

7.5.31.1.1.1 Transport channel parameters for E-DCH

7.5.31.1.1.1.1 MAC-d flow#1 parameters for Conversational / speech / UL:(12.65, 8.85, 6.6) kbps / CS RAB (non-scheduled)

See clause 6.10.2.4.6.10.1.1.1.1 of [1].

7.5.31.1.1.1.2. MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.31.1.2 Physical channel parameters

7.5.31.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.31.2 Downlink

7.5.31.2.1 Transport channel parameters

7.5.31.2.1.1 Transport channel parameters for HS-DSCH

7.5.31.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(12.65, 8.85, 6.6) kbps / CS RAB

See clause 6.10.2.4.6.10.2.1.1.1 of [1].

7.5.31.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.31.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.31.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.32 Conversational / speech / UL:(23.85 12.65 8.85 6.6) DL:(23.85 12.65 8.85 6.6) kbps / CS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.32.1 Uplink

7.5.32.1.1 Transport channel parameters

7.5.32.1.1.1 Transport channel parameters for E-DCH

7.5.32.1.1.1.1 MAC-d flow#1 parameters for Conversational / speech / UL:( 23.85 12.65 8.85 6.6) kbps / CS RAB (non-scheduled)

|  |  |  |
| --- | --- | --- |
| Higher layer | RAB/Signalling RB | RAB |
| PDCP | Header size, bit | 8 |
| RLC | Logical channel type | DTCH |
| RLC mode | UM |
| Payload sizes, bit | 48, 144, 192, 264, 488 |
| Max data rate, bps | Depends on UE category and TTI |
| UMD PDU header, bit | 8 |
| MAC | MAC multiplexing | N/A |
| MAC-d PDU size, bit | 56, 152, 200, 272 , 496 (non-scheduled) NOTE1 |
| MAC-e/es header fixed part, bit | 18 |
| Layer 1 | TrCH type | E-DCH |
| TTI | 10ms (alt. 2ms) (NOTE2) |
| Coding type | TC |
| CRC, bit | 24 |
| NOTE1: Max MAC-e PDU content sizes depends on non-scheduled grant given by SRNC  NOTE2: The support of 2ms TTI depends on the UE category. | | |

7.5.32.1.1.1.2. MAC-d flow#2 parameters for UL: [max bit rate depending on UE category and TTI] SRBs for E-DCH

See clause 6.10.2.4.6.2.1.1.1.2 of [1].

7.5.32.1.2 Physical channel parameters

7.5.32.1.2.1 Physical channel parameters on E-DPDCH

See clause 6.10.2.4.6.1.1.2.1 of [1].

7.5.32.2 Downlink

7.5.32.2.1 Transport channel parameters

7.5.32.2.1.1 Transport channel parameters for HS-DSCH

7.5.32.2.1.1.1 MAC-d flow#1 parameters for Conversational / speech / DL:(23.85 12.65 8.85 6.6) kbps / CS RAB

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Alt 1**  **RLC + MAC-hs**  **(Rel-5 and later releases)** | **Alt 2**  **RLC + MAC-ehs**  **(Rel-7 and later releases)** |
| Higher  Layer | RAB/Signalling RB | **RAB** | |
| PDCP | Header size, bit | 8 | |
| RLC | Logical channel type | DTCH | |
| RLC mode | UM | |
| Payload sizes, bit | 48, 144, 192, 264, 488 | 48, 144, 192, 264, 488 |
| Max data rate, bps | depends on UE category  NOTE1 | |
| UMD PDU header, bit | 8 | 8 |
| MAC | MAC-d header, bit | 0 | 0 |
| MAC multiplexing | N/A | N/A |
| MAC-d PDU size, bit | 56, 152, 200, 272, 496 | 56, 152, 200, 272, 496 |
| MAC-hs Type | MAC-hs | MAC-ehs |
| MAC-hs/ehs header fixed part, bit | 21 | 24 |
| Layer 1 | TrCH type | HS-DSCH | HS-DSCH |
| TTI | 2 ms | 2 ms |
| Coding type | TC | TC |
| CRC, bit | 24 | 24 |
| Applicable modulation schemes | QPSK,  16QAM | QPSK,  16QAM, 64QAM |
| Applicable with MIMO | No | Yes |
| NOTE1: The peak throughput may be limited by the maximum number of MAC-d PDUs that can be included in a single MAC-hs or MAC-ehs PDU (see [25.321]). | | | |

7.5.32.2.1.1.2 MAC-d flow#2 parameters for DL: [max bit rate depending on UE category] SRBs for HS-DSCH

See clause 6.10.2.4.6.3.2.1.1.2 of [1].

7.5.32.2.2 Physical channel parameters

The physical channel configuration shall use F-DPCH.

7.5.32.2.2.1 Physical channel parameters on HS-PDSCH

See clause 6.10.2.4.5.1.2.2.2 of [1].

### 7.5.33 Conversational / speech / UL:12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.33.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.28.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.33.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.28.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.34 Conversational / speech / UL:12.2 kbps DL: 12.2 kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.34.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.28.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for Streaming RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.34.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.28.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Streaming RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.35 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.35.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.9.1.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.35.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.6.9.2.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.35a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.35a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.30a.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.35a.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.30a.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.36 Conversational / speech / UL:(12.2, 7.95, 5.9, 4.75) kbps DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.36.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.9.1.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for Streaming RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.36.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.6.9.2.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Streaming RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.36a Conversational / speech / UL:(12.2, 7.4, 5.9, 4.75) kbps DL: (12.2, 7.4, 5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.36a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.30a.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for Streaming RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.36a.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.30a.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Streaming RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.37 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.37.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.29.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.37.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.29.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.38 Conversational / speech / UL:(5.9, 4.75) kbps DL: (5.9, 4.75) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.38.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 7.5.29.1.1.1.1 for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for Streaming RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.38.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 7.5.29.2.1.1.1 for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Streaming RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.39 Conversational / speech / UL:( 12.65 8.85 6.6) kbps DL: (12.65 8.85 6.6) kbps / CS RAB on E-DCH and HS-DSCH + (1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.39.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.10.1.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.39.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.6.10.2.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.40 Conversational / speech / UL:( 12.65 8.85 6.6) kbps DL: (12.65 8.85 6.6) kbps / CS RAB on E-DCH and HS-DSCH + Streaming / unknown / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + (0, 1, 2 or 3) Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RABs + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

The minimum UE classes supporting this combination are: support of HS-PDSCH, DL on HS-PDSCH: category 11 and support of E-DCH, UL on E-DCH category 1.

Support depends on the UE capability: Support for CS voice over HSPA.

This is supported in Release 8.

7.5.40.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on E-DCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on E-DCH** |
| Transport Channel |  | 6.10.2.4.6.10.1.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.6.1.1.1.1.1 of [1] for Streaming RBs  6.10.2.4.6.1.1.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.2.1.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.6.1.1.2.1 of [1] |  | 6.10.2.4.6.1.1.2.1 of [1]. |

7.5.40.2 Downlink

The physical channel configuration shall use F-DPCH.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.10.2.4.6.10.2.1.1.1 of [1] for CS over HSPA RBs  6.10.2.4.5.1.2.1.1.1 of [1] for Streaming RBs  6.10.2.4.5.1.2.1.1.1 of [1] for (0, 1, 2 or 3) Interactive/Background RBs |  | 6.10.2.4.6.3.2.1.1.2 of [1] |
| TFCS |  | | | |
| Physical Channel |  | 6.10.2.4.5.1.2.2.2 of [1] |  | 6.10.2.4.5.1.2.2.2 of [1] |

### 7.5.41 RB for Conversational / speech / UL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) DL: (EVS 8 7.2 5.9 – AMR-WB IO 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

#### 7.5.41.1 Uplink

##### 7.5.41.1.1 Transport channel parameters

7.5.41.1.1.1 Transport channel parameters for E-DCH

See subclause 6.10.2.4.6.4.1.1.1 of [1].

7.5.41.1.1.2 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.145.1.1.1

7.5.41.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.5.41.1.1.4 TFCS

See subclause 7.1.145.1.1.3.

##### 7.5.41.1.2 Physical channel parameters

7.5.41.1.2.1 Physical channel parameters on E-DPDCH

See subclause 6.10.2.4.6.1.1.2.1 of [1].

7.5.41.1.2.2 Physical channel parameters on DCH

See subclause 7.1.145.1.2

#### 7.5.41.2 Downlink

See subclause 7.4.145.2.

### 7.5.42 RB for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

#### 7.5.42.1 Uplink

##### 7.5.42.1.1 Transport channel parameters

7.5.42.1.1.1 Transport channel parameters for E-DCH

See subclause 6.10.2.4.6.4.1.1.1 of [1].

7.5.42.1.1.2 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.146.1.1.1

7.5.42.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.5.42.1.1.4 TFCS

See subclause 7.1.146.1.1.3.

##### 7.5.42.1.2 Physical channel parameters

7.5.42.1.2.1 Physical channel parameters on E-DPDCH

See subclause 6.10.2.4.6.1.1.2.1 of [1].

7.5.42.1.2.2 Physical channel parameters on DCH

See subclause 7.1.146.1.2

#### 7.5.42.2 Downlink

See subclause 7.4.34.2.

### 7.5.43 RB for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

#### 7.5.43.1 Uplink

##### 7.5.43.1.1 Transport channel parameters

7.5.43.1.1.1 Transport channel parameters for E-DCH

See subclause 6.10.2.4.6.4.1.1.1 of [1].

7.5.43.1.1.2 Transport channel parameters for Conversational / speech / UL: (EVS 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.147.1.1.1

7.5.43.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.5.43.1.1.4 TFCS

See subclause 7.1.147.1.1.3.

##### 7.5.43.1.2 Physical channel parameters

7.5.43.1.2.1 Physical channel parameters on E-DPDCH

See subclause 6.10.2.4.6.1.1.2.1 of [1].

7.5.43.1.2.2 Physical channel parameters on DCH

See subclause 7.1.147.1.2

#### 7.5.43.2 Downlink

See subclause 7.4.35.2.

### 7.5.44 RB for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) DL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB + Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

#### 7.5.44.1 Uplink

##### 7.5.44.1.1 Transport channel parameters

7.5.44.1.1.1 Transport channel parameters for E-DCH

See subclause 6.10.2.4.6.4.1.1.1 of [1].

7.5.44.1.1.2 Transport channel parameters for Conversational / speech / UL: (EVS 24.4 16.4 13.2 9.6 8 7.2 5.9 – AMR-WB IO 12.65 8.85 6.6) kbps / CS RAB

See subclause 7.1.148.1.1.1

7.5.44.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.2.4.1.2.1.1.1 of [1].

7.5.44.1.1.4 TFCS

See subclause 7.1.148.1.1.3.

##### 7.5.44.1.2 Physical channel parameters

7.5.44.1.2.1 Physical channel parameters on E-DPDCH

See subclause 6.10.2.4.6.1.1.2.1 of [1].

7.5.44.1.2.2 Physical channel parameters on DCH

See subclause 7.1.148.1.2

#### 7.5.44.2 Downlink

See subclause 7.4.36.2.

## 7.6 Void

# 8 Examples of Radio Bearers and Signalling Radio Bearers for 3.84 Mcps TDD

NOTE: The physical channel parameters were chosen for each RAB because they are typical for the targeted UE class to support the particular RAB. However based on current radio conditions UEs shall expect to be configured to use any timeslot/code/spreading factors combinations that support the RAB and are supported by that UE’s physical capabilities.

## 8.1 Combinations on DPCH

### 8.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

See subclause 6.10.3.4.1.1 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.3 Stand-aloneUL:13.6 DL:13.6 kbps SRBs for DCCH

See subclause 6.10.3.4.1.3 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.4 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.5 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.6 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.7 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.8 Conversational / speech / UL:6.7 DL: 6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.8 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS rab + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.9 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

See subclause 6.10.3.4.1.10 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

See subclause 6.10.3.4.1.11 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.12 Conversational / unknown / UL:28.8 DL:28.8kbps / CS RAB + UL:3.4 DL:3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.13 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

### 8.1.14 Conversational / unknown / UL:32 DL: 32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.15 Streaming / unknown / UL:14.4 DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.16 Streaming / unknown / UL:28.8 DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.17 Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

### 8.1.18 Streaming / unknown / UL:0 DL: 64 kbps / CS or PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH

Void.

### 8.1.19 Streaming / unknown / UL: 64 DL:0 kbps / CS or PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH

Void

### 8.1.20 Interactive or background / UL: 32 DL:8 kbps / PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 32kbps ; DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI

This is supported in Release '99.

### 8.1.21 Interactive or background / UL: 64 DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Void.

### 8.1.22 Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 32kbps ; DL: 64kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

### 8.1.23 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64kbps . The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.24 Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.25 Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 128kbps plus support for 32 TB/TTI.

This is supported in Release '99.

### 8.1.26 Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release '99.

### 8.1.27 Interactive or background / UL: 144 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 128kbps plus support for maximum 16 TBs per TTI; DL: 128kbps.

This is supported in Release '99.

### 8.1.28 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.29 Interactive or background / UL: 64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.30 Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 128kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.31 Interactive or background / UL:384 DL:384 kbps / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 384kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL 768 kbps. The minimum UE class to support the alternative UL physical configuration 2 is UL 768 kbps.

This is supported in Release '99.

### 8.1.32 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps. The minimum UE class to support the alternative DL configuration is 2048kbps plus support for maximum TB bits 81920 and maximum TC TB bits 81920. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.33 Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Void.

### 8.1.34 Interactive or background / UL: 384 DL:2048 kbps / PS RAB+UL:3.4 DL:3.4 kbps SRBs for DCCH

Void.

### 8.1.35 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.36 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.37 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps ; DL: 64kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release '99.

### 8.1.39 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps plus. The minimum UE class to support the alternative DL configuration is DL: 768kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.41 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 384kbps plus support for 2 physical channels per TS; DL: 2048 kbps plus support for maximum TB bits 40960, maximum TC TB bits 40960, or if an alternative RAB is used, plus support for maximum TB bits 81920 and maximum TB TC bits 81920.

This is supported in Release '99.

### 8.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release '99.

### 8.1.43 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Void.

### 8.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64kbps

This is supported in Release '99.

### 8.1.45 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release '99

### 8.1.46 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps; DL: 128kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.47 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps ; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB/TTI.

This is supported in Release '99.

### 8.1.48 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.53 of [1].

The minimum UE classes for this combination are UL: 384kbps; DL: 384kbps. The minimum UE class to support the alternative UL configuration is UL: 384kbps plus support for 32 TB/TTI.

This is supported in Release '99.

### 8.1.49 Interactive or background / UL:64 DL:128 kbps / PS RAB + streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4kbps SRBs for DCCH

Void.

### 8.1.50 Conversational / Speech UL:(12.2-7.95-5.9-4.75) & DL:(12.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.4a of [1].

The minimum UE classes for this combination are UL: 32 kbps; DL: 32 kbps.

This is supported in Release '99.

### 8.1.51 Conversational / Speech UL:(10.2-6.7-5.9-4.75) & DL:(10.2-7.95-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.5a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.52 Conversational / Speech UL:(7.4-6.7-5.9-4.75) & DL:(7.4-6.7-5.9-4.75) CS RAB + UL:3.4 & DL 3.4kbps SRBs for DCCH

See subclause 6.10.3.4.1.7a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.53 Interactive or Background UL:8 & DL:8kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

### 8.1.54 Interactive or Background UL:16 & DL:16kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23b of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

### 8.1.55 Interactive or Background UL:32 & DL:32kbps PS RAB + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23c of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

### 8.1.56 Interactive or Background UL:32 & DL:32kbps PS RAB (20msTTI) + UL:3.4 & DL:3.4 SRBs for DCCH

See subclause 6.10.3.4.1.23d of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release '99.

### 8.1.57 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.38a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps.

This is supported in Release '99.

### 8.1.58 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:8 & DL:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps.

This is supported in Release '99.

### 8.1.59 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:32 & DL:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

### 8.1.60 Conversational / Speech UL:12.2 & DL:12.2kbps CS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38d of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities, DL: 64 kbps plus support for 5 AM mode entities. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and support for 5 AM mode entities.

This is supported in Release '99.

### 8.1.61 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:0 & DL:0kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38e of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps.

This is supported in Release '99.

### 8.1.62 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:8 & DL:8kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps.

This is supported in Release '99.

### 8.1.63 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:16 & DL:16kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38g of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

### 8.1.64 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:32 & DL:32kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38h of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 32 kbps..

This is supported in Release '99.

### 8.1.65 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:64 & DL:64kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38i of [1].

The minimum UE classes supporting this combination are UL: 64 kbps + 48 Configured TFCs, DL: 64 kbps + 64 Configured TFCs. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and 48 Configured TFCs.

This is supported in Release '99.

### 8.1.66 Conversational / Speech UL:(12.2 7.95 5.9 4.75) & DL:(12.2 7.95 5.9 4.75)kbps CS RAB + Interactive or Background UL:64 & DL:128kbps PS RAB + UL3.4 & DL:3.4kbps SRB’s for DCCH

See subclause 6.10.3.4.1.38j of [1].

The minimum UE classes supporting this combination are UL: 64 kbps + 48 Configured TFCs, DL: 128 kbps.. The minimum UE class to support the alternative UL configuration is UL: 64kbps plus support for 16 TB per TTI and 48 Configured TFCs.

This is supported in Release '99.

### 8.1.67 Conversational / speech / UL:(12.2 7.95 5.9 4.75) kbps DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.49a of [1].

The minimum UE classes supporting this combination are UL:64 kbps; DL:64 kbps.

This is supported in Release '99.

### 8.1.68 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.51a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release '99.

### 8.1.69 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.51b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps.

This is supported in Release '99.

### 8.1.70 Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.56 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps plus support for 5 AM entities, DL: 32 kbps.plus support for 5 AM entities. The minimum UE class to support the alternative UL configuration is UL: 32 kbps plus support for 5 AM mode entities and 8 TB per TTI.

This is supported in Release '99.

### 8.1.71 Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.57 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities. The minimum UE class to support the alternative UL configuration is UL: 64 kbps plus support for 5 AM mode entities and 16 TB per TTI.

This is supported in Release '99.

### 8.1.72 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

See subclause 6.10.3.4.1.58 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities.

This is supported in Release '99.

### 8.1.72a Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH – Alternative

This configuration optimises the flexibility of the Transport Format Selection by adding an omitted Transport Format, to the transport channel parameters given in the reference subclause 6.10.3.4.1.58 of [1], for the downlink,transport channel Streaming / unknown / DL:64 kbps PS RAB.

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 64 kbps plus support for 5 AM mode entities.

This is supported in Release ‘99.

8.1.72a.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1]

8.1.72a.2 Downlink

8.1.72a.2.1 Transport channel parameters

8.1.72a.2.1.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 64000 |
| AM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 3x656 |
| TF4, bits | 4x656 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Max number of bits/radio frame before rate matching | | 2019 |
| RM attribute | | 125-165 |

8.1.72a.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.2 of [1].

8.1.72a.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.72a.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (64 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1), |

8.1.72a.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 6 codes x 1 time slot |
| Max. Number of data bits/radio frame | 1640 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.64 |

### 8.1.73 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.61 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32 kbps.

This is supported in Release '99.

### 8.1.74 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH (Multiframe)

See subclause 6.10.3.4.1.1a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

### 8.1.75 Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM mode entities; DL: 128kbps.

This is supported in Release '99.

8.1.75.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1]

8.1.75.2 Downlink

8.1.75.2.1 Transport channel parameters

8.1.75.2.1.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 128000 |
| UM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 3x656 |
| TF4, bits | 4x656 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Max number of bits/radio frame before rate matching | | 4038 |
| RM attribute | | 125-165 |

8.1.75.2.1.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.1 of [1].

8.1.75.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.75.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (128 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1), |

8.1.75.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 5 codes x 2 time slot |
| Max. Number of data bits/radio frame | 2744 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.60 |

### 8.1.76 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains zero Transport Blocks.

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.76.1 Uplink

8.1.76.1.1 Transport channel parameters

8.1.76.1.1.1 Transport channel parameters for Conversational / unknown / UL:8 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1044 |
| Max number of bits/radio frame before rate matching | | 261 |
| RM attribute | | 135-175 |

8.1.76.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

8.1.76.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.76.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 (alt. 12) |
| TFCS | (8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)  (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1)) |

8.1.76.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.68 (alt. 0.64) |

8.1.76.2 Downlink

8.1.76.2.1 Transport channel parameters

8.1.76.2.1.1 Transport channel parameters for Conversational / unknown / DL:8 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| AMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1044 |
| Max number of bits/radio frame before rate matching | | 261 |
| RM attribute | | 135-175 |

8.1.76.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.2 of [1].

8.1.76.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.76.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1) |

8.1.76.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 3 codes x 1 time slot |
| Max. Number of data bits/radio frame | 716 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.96 |

### 8.1.77 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:8 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.77.1 Uplink

8.1.77.1.1 Transport channel parameters

8.1.77.1.1.1 Transport channel parameters for Conversational / unknown / UL:8 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 0, 328 |
| TFS | TF0, bits | 1x0 |
| TF1, bits | 1x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1044 |
| Max number of bits/radio frame before rate matching | | 261 |
| RM attribute | | 135-175 |

8.1.77.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.2 of [1]

8.1.77.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.77.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 (alt. 12) |
| TFCS | (8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1)  (alt. (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0),  (TF1, TF1, TF0), (TF0, TF2, TF0), (TF1, TF2, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF1, TF1), (TF0, TF2, TF1), (TF1, TF2, TF1)) |

8.1.77.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.68 (alt. 0.64) |

8.1.77.2 Downlink

8.1.77.2.1 Transport channel parameters

8.1.77.2.1.1 Transport channel parameters for Conversational / unknown / DL:8 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| AMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 0, 328 |
| TFS | TF0, bits | 1x0 |
| TF1, bits | 1x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1044 |
| Max number of bits/radio frame before rate matching | | 261 |
| RM attribute | | 135-175 |

8.1.77.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.2 of [1].

8.1.77.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.77.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (8 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF0, TF1, TF0), (TF1, TF1, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF0, TF1, TF1), (TF1, TF1, TF1) |

8.1.77.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 3 codes x 1 time slot |
| Max. Number of data bits/radio frame | 716 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.72 |

### 8.1.78 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains zero Transport Blocks.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.78.1 Uplink

8.1.78.1.1 Transport channel parameters

8.1.78.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2076 |
| Max number of bits/radio frame before rate matching | | 519 |
| RM attribute | | 135-175 |

8.1.78.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

8.1.78.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.78.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 (alt 18) |
| TFCS | (16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)  (alt ((TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1),(TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF2, TF1)) |

8.1.78.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF4 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 904 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.96 (alt. 0.92) |

8.1.78.2 Downlink

8.1.78.2.1 Transport channel parameters

8.1.78.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| AMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 328 |
| TFS | TF0, bits | 0x328 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2076 |
| Max number of bits/radio frame before rate matching | | 519 |
| RM attribute | | 135-175 |

8.1.78.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1. 23.2.1.1 of [1]

8.1.78.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.78.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1) |

8.1.78.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 3 codes x 1 time slot |
| Max. Number of data bits/radio frame | 716 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.72 |

### 8.1.79 Conversational / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

NOTE: Conversational / unknown / UL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

NOTE: Conversational / unknown / DL:16 kbps / PS RAB – TF0 contains one Transport Block of zero size.

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration is UL: 64kbps.

This is supported in Release '99.

8.1.79.1 Uplink

8.1.79.1.1 Transport channel parameters

8.1.79.1.1.1 Transport channel parameters for Conversational / unknown / UL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| UMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 0, 328 |
| TFS | TF0, bits | 1x0 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2076 |
| Max number of bits/radio frame before rate matching | | 519 |
| RM attribute | | 135-175 |

8.1.79.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

8.1.79.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.79.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 (alt 18) |
| TFCS | (16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1)  (alt. ((TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF1, TF1),(TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF1, TF1)) |

8.1.79.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF4 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 904bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.96 (alt. 0.92) |

8.1.79.2 Downlink

8.1.79.2.1 Transport channel parameters

8.1.79.2.1.1 Transport channel parameters for Conversational / unknown / DL:16 kbps / PS RAB

NOTE: In case of using this alternative, CRC parity bits are to be attached every time since number of TrBlks are 1 even if there is no data on the RAB (see subclause 4.2.1.1 in [3]).

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | UM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 16000 |
| AMD PDU header, bit | | 8 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 0, 328 |
| TFS | TF0, bits | 1x0 |
| TF1, bits | 1x328 |
| TF2, bits | 2x328 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2076 |
| Max number of bits/radio frame before rate matching | | 519 |
| RM attribute | | 135-175 |

8.1.79.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.1 of [1]

8.1.79.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.79.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (16 kbps Conversational RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1) |

8.1.79.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 3 codes x 1 time slot |
| Max. Number of data bits/radio frame | 716 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.72 |

### 8.1.80 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + Interactive or Background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 32kbps plus support for 5 AM mode entities, DL: 32kbps plus support for 5 AM mode entities.

This is supported in Release '99.

8.1.80.1 Uplink

8.1.80.1.1 Transport channel parameters

8.1.80.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.1.1.1 of [1].

8.1.80.1.1.2 Transport channel parameters for Interactive or Background / UL:0 + UL:0 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 0 | 0 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
|  | TFS | TF0, bits | 0x340 | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 0 | |
| Max number of bits/radio frame before rate matching | | 0 | |
| RM attribute | | 130-170 | |

8.1.80.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.80.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 6 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1) |

8.1.80.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bit |
| Puncturing Limit | 0.68 |

8.1.80.2 Downlink

8.1.80.2.1 Transport channel parameters

8.1.80.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.2.1.1 of [1].

8.1.80.2.1.2 Transport channel parameters for Interactive or Background / DL:0 + DL:0 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 0 | 0 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
| TFS | TF0, bits | 0x340 | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 0 | |
| Max number of bits/radio frame before rate matching | | 0 | |
| RM attribute | | 130-170 | |

8.1.80.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.80.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 6 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 0+0kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF1) |

8.1.80.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 2 codes x 1 time slot |
| Max. Number of data bits/radio frame | 472 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.68 |

### 8.1.81 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64 kbps.

This is supported in Release '99.

8.1.81.1 Uplink

8.1.81.1.1 Transport channel parameters

8.1.81.1.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See subclause 6.10.3.4.1.13.1.1.1 of [1].

8.1.81.1.1.2 Transport channel parameters for Interactive or Background / UL:8 + UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.56.1.1.1 of [1]

8.1.81.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.81.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 (alt. 12) |
| TFCS | (64 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)  (alt. (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)) |

8.1.81.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 256 chips |
| Codes and time slots | SF4 x 1 code x 1 time slot  SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 1584 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.60(alt. 0.56) |

8.1.81.2 Downlink

8.1.81.2.1 Transport channel parameters

8.1.81.2.1.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See subclause 6.10.3.4.1.13.2.1.1 of [1].

8.1.81.2.1.2 Transport channel parameters for Interactive or Background / DL:8 + DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.56.2.1.1 of [1]

8.1.81.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.81.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (64 kbps Conversational RAB, 8+8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) |

8.1.81.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 6 codes x 1 time slot |
| Max. Number of data bits/radio frame | 1640 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.60 |

### 8.1.82 Streaming / unknown / UL:8 DL:16 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

8.1.82.1 Uplink

8.1.82.1.1 Transport channel parameters

8.1.82.1.1.1 Transport channel parameters for Streaming / unknown / UL:8 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1068 |
| Max number of bits/radio frame before rate matching | | 267 |
| RM attribute | | 135-175 |

8.1.82.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23a.1.1.2 of [1]

8.1.82.1.1.3 Transport channel parameters for UL: 3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.2.2.1.1.1 of [1]

8.1.82.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 (alt 12) |
| TFCS | (8 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)  (alt. ((TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)) |

8.1.82.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.64 |

8.1.82.2 Downlink

8.1.82.2.1 Transport channel parameters

8.1.82.2.1.1 Transport channel parameters for Streaming / unknown / DL:16 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 16000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2028 |
| Max number of bits/radio frame before rate matching | | 507 |
| RM attribute | | 125-165 |

8.1.82.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23.2.1.2 of [1]

8.1.82.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.2.2.2.1.1 of [1]

8.1.82.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 |
| TFCS | (16 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1) |

8.1.82.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 2 codes x 1 time slot |
| Max. Number of data bits/radio frame | 472 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.48 |

### 8.1.83 Streaming / unknown / UL:8 DL:32 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release '99.

8.1.83.1 Uplink

8.1.83.1.1 Transport channel parameters

8.1.83.1.1.1 Transport channel parameters for Streaming / unknown / UL:8 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 8000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 1068 |
| Max number of bits/radio frame before rate matching | | 267 |
| RM attribute | | 135-175 |

8.1.83.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23a.1.1.2 of [1]

8.1.83.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.2.2.1.1.1 of [1]

8.1.83.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 8 (alt. 12) |
| TFCS | (8 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1)  (alt (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1),(TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1)) |

8.1.83.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.64 |

8.1.83.2 Downlink

8.1.83.2.1 Transport channel parameters

8.1.83.2.1.1 Transport channel parameters for Streaming / unknown / DL: 32 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 32000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TTI, ms | | 40 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 4044 |
| Max number of bits/radio frame before rate matching | | 1011 |
| RM attribute | | 125-165 |

8.1.83.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.2.23.2.1.2 of [1]

8.1.83.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.2.2.2.1.1 of [1]

8.1.83.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (32 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF0, TF1), (TF0, TF1, TF1),  (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF0, TF1), (TF1, TF1, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1) |

8.1.83.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 5 codes x 1 time slot |
| Max. Number of data bits/radio frame | 1204 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.80 |

### 8.1.84 Streaming / unknown / UL:32 DL:256 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

8.1.84.1 Uplink

8.1.84.1.1 Transport channel parameters

8.1.84.1.1.1 Transport channel parameters for Streaming / unknown / UL:32 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 320 |
| Max data rate, bps | | 32000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 336 |
| TFS | TF0, bits | 0x336 |
| TF1, bits | 1x336 |
| TF2, bits | 2x336 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 2124 |
| Max number of bits/radio frame before rate matching | | 1062 |
| RM attribute | | 135-175 |

8.1.84.1.1.2 Transport channel parameters for Interactive or Background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1]

8.1.84.1.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.84.1.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 (alt 18) |
| TFCS | (32 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0, TF0, TF0), (TF1, TF0, TF0), (TF2, TF0, TF0),  (TF0, TF1, TF0), (TF1, TF1, TF0), (TF2, TF1, TF0),  (TF0, TF0, TF1), (TF1, TF0, TF1), (TF2, TF0, TF1),  (TF0, TF1, TF1), (TF1, TF1, TF1), (TF2, TF1, TF1)  (alt. ((TF0, TF0, TF0), (TF0, TF1, TF0), (TF0, TF2, TF0) (TF0, TF0, TF1), (TF0, TF1, TF1), (TF0, TF2, TF1), (TF1, TF0, TF0), (TF1, TF1, TF0), (TF1, TF2, TF0) (TF1, TF0, TF1), (TF1, TF1, TF1), (TF1, TF2, TF1),  (TF2, TF0, TF0), (TF2, TF1, TF0), (TF2, TF2, TF0), (TF2, TF0, TF1), (TF2, TF1, TF1), (TF2, TF2, TF1)) |

8.1.84.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF4 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 904 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.60 |

8.1.84.2 Downlink

8.1.84.2.1 Transport channel parameters

8.1.84.2.1.1 Transport channel parameters for Streaming / unknown / DL:256 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 256000 |
| AMD PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 3x656 |
| TF4, bits | 4x656 |
| TTI, ms | | 10 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Max number of bits/radio frame before rate matching | | 8076 |
| RM attribute | | 125-165 |

8.1.84.2.1.2 Transport channel parameters for Interactive or Background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1. 23.2.1.2 of [1]

8.1.84.2.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.84.2.1.4 TFCS

|  |  |
| --- | --- |
| TFCS size | 20 |
| TFCS | (256 kbps Streaming RAB, 8 kbps I/B RAB, DCCH)=  (TF0,TF0,TF0), (TF1,TF0,TF0), (TF2,TF0,TF0), (TF3,TF0,TF0), (TF4,TF0,TF0),  (TF0,TF1,TF0), (TF1,TF1,TF0), (TF2,TF1,TF0), (TF3,TF1,TF0), (TF4,TF1,TF0),  (TF0,TF0,TF1), (TF1,TF0,TF1), (TF2,TF0,TF1), (TF3,TF0,TF1), (TF4,TF0,TF1),  (TF0,TF1,TF1), (TF1,TF1,TF1), (TF2,TF1,TF1), (TF3,TF1,TF1), (TF4,TF1,TF1), |

8.1.84.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 5 codes x 4 time slots |
| Max. Number of data bits/radio frame | 5504 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.64 |

### 8.1.85 Interactive or background / UL:16 DL:16 kbps / PS RAB + Interactive or Background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release '99.

8.1.85.1 Uplink

8.1.85.1.1 Transport channel parameters

8.1.85.1.1.1 Transport channel parameters for Interactive or Background / UL:16 + UL:16 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 (alt 128) | 320 (alt 128) |
| Max data rate, bps | | 16000 | 16000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
| TFS | TF0, bits | 0x340 (alt 0x148) | |
| TF1, bits | 1x340 (alt 1x148) | |
| TF2, bits | 2x340 (alt 5x148) | |
| TTI, ms | | 40 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 2148 (alt 2472) | |
| Max number of bits/radio frame before rate matching | | 537 (alt 618) | |
| RM attribute | | 135-175 | |

8.1.85.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1]

8.1.85.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 6 |
| TFCS | (16 kbps RAB + 16 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1) |

8.1.85.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 512 chips |
| Codes and time slots | SF8 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 452 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.64 (alt. 0.60) |

8.1.85.2 Downlink

8.1.85.2.1 Transport channel parameters

8.1.85.2.1.1 Transport channel parameters for Interactive or background / DL:16 + DL:16 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | RAB | RAB |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 16000 | 16000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
| TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 | |
| TTI, ms | | 40 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 2148 | |
| Max number of bits/radio frame before rate matching | | 537 | |
| RM attribute | | 135-175 | |

8.1.85.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1]

8.1.85.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 6 |
| TFCS | (16 kbps RAB + 16 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF0, TF1), (TF1, TF1), (TF2, TF1) |

8.1.85.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 512 chips |
| Codes and time slots | SF16 x 2 codes x 1 time slot |
| Max. Number of data bits/radio frame | 472 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.68 |

### 8.1.86 Interactive or background / UL:64 DL:8 kbps / PS RAB + Interactive or Background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 32 kbps.plus support for 5 AM entities.

This is supported in Release '99.

8.1.86.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1]

8.1.86.2 Downlink

See subclause 6.10.3.4.1.56.2 of [1]

### 8.1.87 Interactive or Background / UL:64 DL:128 kbps / PS RAB + Interactive or Background / UL:64 DL:128 kbps / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 128kbps.

This is supported in Release '99.

8.1.87.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1].

8.1.87.2 Downlink

8.1.87.2.1 Transport channel parameters

8.1.87.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 128000 | 128000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
|  | TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 | |
| TF3, bits | 4x340 | |
| TF4, bits | 8x340 | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 8556 | |
| Max number of bits/radio frame before rate matching | | 4278 | |
| RM attribute | | 120-160 | |

8.1.87.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.87.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (128 kbps RAB + 128 kbps RAB, DCCH)=  (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0),  (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1) |

8.1.87.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 9 codes x 1 time slot |
| Max. Number of data bits/radio frame | 2468 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.52 |

### 8.1.88 Interactive or Background / UL:64 DL:384 kbps / PS RAB + Interactive or Background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps.

This is supported in Release '99.

8.1.88.1 Uplink

See subclause 6.10.3.4.1.57.1 of [1].

8.1.88.2 Downlink

8.1.88.2.1 Transport channel parameters

8.1.88.2.1.1 Transport channel parameters for Interactive or background / DL:384 + DL:384 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 384000 | 384000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
|  | TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 | |
| TF3, bits | 4x340 | |
| TF4, bits | 8x340 | |
| TF5, bits | 12x340 | |
| TTI, ms | | 10 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 12828 | |
| Max number of bits/radio frame before rate matching | | 12828 | |
| RM attribute | | 110-150 | |

8.1.88.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.88.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 12 |
| TFCS | (384 kbps RAB + 384 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0), (TF5, TF0)  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1), (TF5, TF1) |

8.1.88.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 9 codes x 3 time slots |
| Max. Number of data bits/radio frame | 7436 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.56 |

### 8.1.89 Interactive or background / UL:128 DL:128 kbps / PS RAB + Interactive or Background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps, DL: 128kbps. The minimum UE class to support the alternative UL configuration (128-bit payload size) is UL: 128kbps plus support for ‘Maximum total number of transport blocks transmitted within TTIs that start at the same time’ = 32.

This is supported in Release '99.

8.1.89.1 Uplink

8.1.89.1.1 Transport channel parameters

8.1.89.1.1.1 Transport channel parameters for Interactive or Background / UL:128 + UL:128 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 (alt. 128) | 320 (alt. 128) |
| Max data rate, bps | | 128000 | 128000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 (alt. 148) | |
| TFS | TF0, bits | 0x340 (alt. 0x148) | |
| TF1, bits | 1x340 (alt. 1x148) | |
| TF2, bits | 2x340 (alt. 7x148) | |
|  | TF3, bits | 4x340 (alt. 14x148) | |
|  | TF4, bits | 8x340 (alt. 20x148) | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 8556 (alt. 9852) | |
| Max number of bits/radio frame before rate matching | | 4278 (alt. 4926) | |
| RM attribute | | 120-160 | |

8.1.89.1.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.89.1.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 9 (alt. 10) |
| TFCS | (128 kbps RAB + 128 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0),  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1)  (alt (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0),  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1)) |

8.1.89.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 256 chips |
| Codes and time slots | SF2 x 1 code x 1 time slot+ SF4 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 3168 bits |
| TFCI code word | 16 bits |
| TPC | 2 bits |
| Puncturing Limit | 0.68(alt. 0.60) |

8.1.89.2 Downlink

8.1.89.2.1 Transport channel parameters

8.1.89.2.1.1 Transport channel parameters for Interactive or background / DL:128 + DL:128 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 128000 | 128000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
|  | TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 | |
| TF3, bits | 4x340 | |
| TF4, bits | 8x340 | |
| TTI, ms | | 20 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 8556 | |
| Max number of bits/radio frame before rate matching | | 4278 | |
| RM attribute | | 120-160 | |

8.1.89.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.89.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (128 kbps RAB + 128 kbps RAB, DCCH)=  (TF0,TF0), (TF1,TF0), (TF2,TF0), (TF3,TF0), (TF4,TF0),  (TF0,TF1), (TF1,TF1), (TF2,TF1), (TF3,TF1), (TF4,TF1) |

8.1.89.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 5 codes x 2 time slots |
| Max. Number of data bits/radio frame | 2744 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.60 |

### 8.1.90 Interactive or background / UL:128 DL:32 kbps / PS RAB + Interactive or Background / UL:128 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128kbps, DL: 32kbps. The minimum UE class to support the alternative UL configuration (128-bit payload size) is UL: 128kbps plus support for ‘Maximum total number of transport blocks transmitted within TTIs that start at the same time’ = 32.

This is supported in Release '99.

8.1.90.1 Uplink

See subclause 8.1.89.1 of [1].

8.1.90.2 Downlink

8.1.90.2.1 Transport channel parameters

8.1.90.2.1.1 Transport channel parameters for Interactive or background / DL:32 + DL:32 kbps / PS RAB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Higher  layer | RAB/Signalling RB | | **RAB** | **RAB** |
| RLC | Logical channel type | | DTCH | DTCH |
| RLC mode | | AM | AM |
| Payload sizes, bit | | 320 | 320 |
| Max data rate, bps | | 32000 | 32000 |
| AMD PDU header, bit | | 16 | 16 |
| MAC | MAC header, bit | | 4 | 4 |
| MAC multiplexing | | 2 logical channel multiplexing | |
| Layer 1 | TrCH type | | DCH | |
| TB sizes, bit | | 340 | |
| TFS | TF0, bits | 0x340 | |
| TF1, bits | 1x340 | |
| TF2, bits | 2x340 | |
| TF3, bits | 3x340 | |
| TF4, bits | 4x340 | |
| TTI, ms | | 40 | |
| Coding type | | TC | |
| CRC, bit | | 16 | |
| Max number of bits/TTI after channel coding | | 4284 | |
| Max number of bits/radio frame before rate matching | | 1071 | |
| RM attribute | | 135-175 | |

8.1.90.2.1.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.90.2.1.3 TFCS

|  |  |
| --- | --- |
| TFCS size | 10 |
| TFCS | (32 kbps RAB + 32 kbps RAB, DCCH)=  (TF0, TF0), (TF1, TF0), (TF2, TF0), (TF3, TF0), (TF4, TF0)  (TF0, TF1), (TF1, TF1), (TF2, TF1), (TF3, TF1), (TF4, TF1) |

8.1.90.2.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips |
| Codes and time slots | SF16 x 3 codes x 1 time slot |
| Max. Number of data bits/radio frame | 812 bits |
| TFCI code word | 16 bits |
| Puncturing limit | 0.64 |

### 8.1.91 Streaming / unknown / UL:16 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 64 kbps.

This is supported in Release ‘99.

8.1.91.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1].

8.1.91.2 Downlink

See subclause 8.1.82.2 of [1].

### 8.1.92 Streaming / unknown / UL:16 DL:32 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 5 AM entities, DL: 64 kbps.

This is supported in Release ‘99.

8.1.92.1 Uplink

See subclause 6.10.3.4.1.58.1 of [1].

8.1.92.2 Downlink

See subclause 8.1.83.2 of [1].

### 8.1.93 Interactive or background / UL:16 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release ‘99.

8.1.93.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.93.2 Downlink

See subclause 6.10.3.4.1.23c.2 of [1].

### 8.1.94 Interactive or background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 64 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release ‘99.

8.1.94.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.94.2 Downlink

See subclause 6.10.3.4.1.25.2 of [1].

### 8.1.95 Interactive or background / UL:16 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps, DL: 128 kbps. The minimum UE class to support the alternative UL configuration is UL: 32kbps plus support for 8 TB/TTI.

This is supported in Release ‘99.

8.1.95.1 Uplink

See subclause 6.10.3.4.1.23b.1 of [1].

8.1.95.2 Downlink

See subclause 6.10.3.4.1.27.2 of [1].

### 8.1.96 Conversational / speech / UL:12.2 DL:12.2 kbps + Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 64 kbps plus support for 16 TB/TTI, DL: 128 kbps.

This is supported in release ‘99.

8.1.96.1 Uplink

8.1.96.1.1 Transport channel parameters

8.1.96.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.1.1.1 of [1].

8.1.96.1.1.2 Transport channel parameters for Streaming / unknown / UL:16 kbps

See subclause 6.10.3.4.1.58.1.1.1 of [1].

8.1.96.1.1.3 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1].

8.1.96.1.1.4 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.96.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 (alt. 36) |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1)  (alt (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF1,TF2,TF0), (TF1,TF0,TF0,TF1,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF1,TF2,TF1), (TF1,TF0,TF0,TF1,TF2,TF1), (TF2,TF1,TF1,TF1,TF2,TF1)) |

8.1.96.1.2 Physical channel parameters

|  |  |  |
| --- | --- | --- |
| DPCH Uplink | Midamble | 256 chips |
| Codes and time slots | SF4 x 1 code x 1 time slot + SF16 x 1 code x 1 time slot |
| Max. Number of data bits/radio frame | 1308 bits (alt. 1244 bits) |
| TFCI code word | 16 bits (alt. 32 bits) |
| TPC | 2 bits |
| Puncturing Limit | 0.88 (alt. 0.84)) |

8.1.96.2 Downlink

8.1.96.2.1 Transport channel parameters

8.1.96.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.2.1.1 of [1]

8.1.96.2.1.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / PS RAB

See subclause 8.1.75.2.1.1 of [1].

8.1.96.2.1.3 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.1 of [1].

8.1.96.2.1.4 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.96.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1) |

8.1.96.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips | |
| Codes and time slots | SF16 x 6 codes x 2 time slots | |
| Max. Number of data bits/radio frame | 3280 bits | |
| TFCI code word | 32 bits | |
| Puncturing limit | | 0,64 |

### 8.1.97 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL:16 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

The minimum UE classes supporting this combination are UL: 128 kbps plus support for 16 TB/TTI, DL: 64 kbps.

This is supported in release '99.

8.1.97.1 Uplink

8.1.97.1.1 Transport channel parameters

8.1.97.1.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.1.1.1 of [1]

8.1.97.1.1.2 Transport channel parameters for Streaming / unknown / UL:128 kbps / PS RAB

|  |  |  |  |
| --- | --- | --- | --- |
| Higher  Layer | RAB/Signalling RB | | **RAB** |
| RLC | Logical channel type | | DTCH |
| RLC mode | | AM |
| Payload sizes, bit | | 640 |
| Max data rate, bps | | 128000 |
| AM PDU header, bit | | 16 |
| MAC | MAC header, bit | | 0 |
| MAC multiplexing | | N/A |
| Layer 1 | TrCH type | | DCH |
| TB sizes, bit | | 656 |
| TFS | TF0, bits | 0x656 |
| TF1, bits | 1x656 |
| TF2, bits | 2x656 |
| TF3, bits | 4x656 |
| TTI, ms | | 20 |
| Coding type | | TC |
| CRC, bit | | 16 |
| Max number of bits/TTI after channel coding | | 8076 |
| Max number of bits/radio frame before rate matching | | 4038 |
| RM attribute | | 125-165 |

8.1.97.1.1.3 Transport channel parameters for Interactive or background / UL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23a.1.1.1 of [1].

8.1.97.1.1.4 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.1.1.1 of [1].

8.1.97.1.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 48 (alt. 72) |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 128 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1)  (alt. (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF2,TF0,TF0), (TF1,TF0,TF0,TF2,TF0,TF0), (TF2,TF1,TF1,TF2,TF0,TF0), (TF0,TF0,TF0,TF3,TF0,TF0), (TF1,TF0,TF0,TF3,TF0,TF0), (TF2,TF1,TF1,TF3,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF2,TF1,TF0), (TF1,TF0,TF0,TF2,TF1,TF0), (TF2,TF1,TF1,TF2,TF1,TF0), (TF0,TF0,TF0,TF3,TF1,TF0), (TF1,TF0,TF0,TF3,TF1,TF0), (TF2,TF1,TF1,TF3,TF1,TF0),  (TF0,TF0,TF0,TF0,TF2,TF0), (TF1,TF0,TF0,TF0,TF2,TF0), (TF2,TF1,TF1,TF0,TF2,TF0), (TF0,TF0,TF0,TF1,TF2,TF0), (TF1,TF0,TF0,TF1,TF2,TF0), (TF2,TF1,TF1,TF1,TF2,TF0), (TF0,TF0,TF0,TF2,TF2,TF0), (TF1,TF0,TF0,TF2,TF2,TF0), (TF2,TF1,TF1,TF2,TF2,TF0), (TF0,TF0,TF0,TF3,TF2,TF0), (TF1,TF0,TF0,TF3,TF2,TF0), (TF2,TF1,TF1,TF3,TF2,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF2,TF0,TF1), (TF1,TF0,TF0,TF2,TF0,TF1), (TF2,TF1,TF1,TF2,TF0,TF1), (TF0,TF0,TF0,TF3,TF0,TF1), (TF1,TF0,TF0,TF3,TF0,TF1), (TF2,TF1,TF1,TF3,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1), (TF0,TF0,TF0,TF2,TF1,TF1), (TF1,TF0,TF0,TF2,TF1,TF1), (TF2,TF1,TF1,TF2,TF1,TF1), (TF0,TF0,TF0,TF3,TF1,TF1), (TF1,TF0,TF0,TF3,TF1,TF1), (TF2,TF1,TF1,TF3,TF1,TF1), (TF0,TF0,TF0,TF0,TF2,TF1), (TF1,TF0,TF0,TF0,TF2,TF1), (TF2,TF1,TF1,TF0,TF2,TF1), (TF0,TF0,TF0,TF1,TF2,TF1), (TF1,TF0,TF0,TF1,TF2,TF1), (TF2,TF1,TF1,TF1,TF2,TF1), (TF0,TF0,TF0,TF2,TF2,TF1), (TF1,TF0,TF0,TF2,TF2,TF1), (TF2,TF1,TF1,TF2,TF2,TF1), (TF0,TF0,TF0,TF3,TF2,TF1), (TF1,TF0,TF0,TF3,TF2,TF1), (TF2,TF1,TF1,TF3,TF2,TF1)) |

8.1.97.1.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Uplink | Midamble | 256 chips | |
| Codes and time slots | {SF2 x 1 code x 1 timeslot} + {SF4 x 1 code x 1 timeslot} | |
| Max. Number of data bits/radio frame | 3040 bits | |
| TFCI code word | 32 bits | |
| TPC | 2 | |
| Puncturing limit | | 0.60 |

8.1.97.2 Downlink

8.1.97.2.1 Transport channel parameters

8.1.97.2.1.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See subclause 6.10.3.4.1.4.2.1.1 of [1].

8.1.97.2.1.2 Transport channel parameters for Streaming / unknown / DL:16 kbps / PS RAB

See subclause 8.1.82.2.1.1 of [1].

8.1.97.2.1.3 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

See subclause 6.10.3.4.1.23.2.1.1 of [1].

8.1.97.2.1.4 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See subclause 6.10.3.4.1.2.2.1.1 of [1].

8.1.97.2.1.5 TFCS

|  |  |
| --- | --- |
| TFCS size | 24 |
| TFCS | (RAB subflow#1, RAB subflow#2, RAB subflow#3, 16 kbps RAB, 8 kbps RAB, DCCH)=  (TF0,TF0,TF0,TF0,TF0,TF0), (TF1,TF0,TF0,TF0,TF0,TF0), (TF2,TF1,TF1,TF0,TF0,TF0), (TF0,TF0,TF0,TF1,TF0,TF0), (TF1,TF0,TF0,TF1,TF0,TF0), (TF2,TF1,TF1,TF1,TF0,TF0), (TF0,TF0,TF0,TF0,TF1,TF0), (TF1,TF0,TF0,TF0,TF1,TF0), (TF2,TF1,TF1,TF0,TF1,TF0), (TF0,TF0,TF0,TF1,TF1,TF0), (TF1,TF0,TF0,TF1,TF1,TF0), (TF2,TF1,TF1,TF1,TF1,TF0), (TF0,TF0,TF0,TF0,TF0,TF1), (TF1,TF0,TF0,TF0,TF0,TF1), (TF2,TF1,TF1,TF0,TF0,TF1), (TF0,TF0,TF0,TF1,TF0,TF1), (TF1,TF0,TF0,TF1,TF0,TF1), (TF2,TF1,TF1,TF1,TF0,TF1), (TF0,TF0,TF0,TF0,TF1,TF1), (TF1,TF0,TF0,TF0,TF1,TF1), (TF2,TF1,TF1,TF0,TF1,TF1), (TF0,TF0,TF0,TF1,TF1,TF1), (TF1,TF0,TF0,TF1,TF1,TF1), (TF2,TF1,TF1,TF1,TF1,TF1) |

8.1.97.2.2 Physical channel parameters

|  |  |  |  |
| --- | --- | --- | --- |
| DPCH Downlink | Midamble | 256 chips | |
| Codes and time slots | SF16 x 3 codes x 1 time slot | |
| Max. Number of data bits/radio frame | 812 bits | |
| TFCI code word | 16 bits | |
| Puncturing limit | | 0.52 |

## 8.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

### 8.2.1 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps , DL: 384kbps.

This is supported in Release '99.

### 8.2.2 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kbps.

This is supported in Release '99.

### 8.2.3 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 DL:33.6 kbps SRBs for DCCH, CCCH and BCCH + UL:16.8 DL:16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 2048kbps The minimum UE class to support the alternative DL configuration is DL: 2048kbps plus support maximum TB bits 81920, and TB TC bits 81920.

This is supported in Release '99.

### 8.2.4 Interactive or background / UL: 384 DL: 2048 kbps / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.10.3.4.2.4 of [1].

The minimum UE classes supporting this combination are UL: 384kbps plus support of SF1, DL: 2048kbps. The minimum UE class to support the alternative DL configuration is DL: 2048kbps plus support maximum TB bits 81920, and TB TC bits 81920. The minimum UE class to support the alternative UL configuration is UL: 384kbps plus support for 64 TB/TTI and support of SF1.

This is supported in Release '99.

## 8.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

### 8.3.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + interactive or background / UL:64 DL:256 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.10.3.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kps.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

### 8.3.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.10.3.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384kbps. The minimum UE class to support the alternative DL configuration is DL: 768kps.

NOTE: It is assumed that the DPCH DL, PDSCH and SCCPCH use different TS.

This is supported in Release '99.

### 8.3.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:16.8 kbps SRBs for CCCH and SHCCH + DL:33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.10.3.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps plus support for maximum TB bits 81920, maximum TC TB bits 81920.

This is supported in Release '99.

## 8.4 Combinations on SCCPCH

## 8.4.1 Stand – alone signalling RB for PCCH

See subclause 6.10.3.4.4.1 of [1].

The minimum UE class supporting this combination is DL: 32 kbps. This is supported in Release '99

### 8.4.2 Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 8.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 8.4.4 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.2a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 8.4.5 SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.2b of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 8.4.6 SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.10.3.4.4.3a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

### 8.4.7 RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.10.3.4.4.4 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release '99.

## 8.5 Combinations on PRACH

### 8.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.1 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

### 8.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.2 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

### 8.5.3 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

See subclause 6.10.3.4.5.3 of [1].

The minimum UE class supporting this combination is UL: 32 kbps. This is supported by Release '99.

# 9 Examples of Radio Bearers and Signalling Radio Bearers for 1.28 Mcps TDD

## 9.1 Combinations on DPCH

### 9.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

See subclause 6.11.5.4.1.1 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.1a Stand-alone UL: 1.7 DL: 1.7 kbps SRBs for DCCH (multiframe)

See subclause 6.11.5.4.11a of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.2 Stand-alone UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.2 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.3 Stand-aloneUL: 13.6 DL: 13.6 kbps SRBs for DCCH

See subclause 6.11.5.4.1.3 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.4 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.4 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.4a Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2 kbps, 7.95, 5.9, 4.75) / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.4a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.5 Conversational / speech / UL: 10.2 DL: 10.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.5 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.5a Conversational / speech / UL: (10.2, 6.7, 5.9, 4.75) DL: (10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.5a of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.6 Conversational / speech / UL: 7.95 DL: 7.95 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.6 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.7 Conversational / speech / UL: 7.4 DL: 7.4 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.7 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.7a Conversational / speech / UL: (7.4, 6.7, 5.9, 4.75) DL: (7.4, 6.7, 5.9, 4.75) kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.7a of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.8 Conversational / speech / UL: 6.7 DL: 6.7 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.8 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.9 Conversational / speech / UL: 5.9 DL: 5.9 kbps / CS rab + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.9 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.10 Conversational / speech / UL: 5.15 DL: 5.15 kbps / CS RAB + UL: 1.7 DL: 1.7 kbps SRBs for DCCH

See subclause 6.11.5.4.1.10 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.11 Conversational / speech / UL: 4.75 DL: 4.75 kbps / CS RAB + UL: 1.7 DL: 1.7 kbps SRBs for DCCH

See subclause 6.11.5.4.1.11 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.12 Conversational / unknown / UL: 28.8 DL: 28.8 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.12 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.13 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.13 of [1].

The minimum UE classes supporting this combination are UL: 64kbps, DL: 64kbps.

This is supported in Release 4.

### 9.1.14 Conversational / unknown / UL: 32 DL: 32 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.14 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.15 Streaming / unknown / UL: 14.4 DL: 14.4 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.15 of [1].

The minimum UE classes supporting this combination are UL: 32kbps, DL: 32kbps.

This is supported in Release 4.

### 9.1.16 Streaming / unknown / UL: 28.8 DL: 28.8 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.16 of [1].

The minimum UE classes supporting this combination are UL: 32kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.17 Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.17 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.18 Void

Void

### 9.1.19 Void

Void

### 9.1.20 Void

Void.

### 9.1.21 Void

Void.

### 9.1.22 Void

Void.

### 9.1.23 Interactive or background / UL: 32 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.23a Interactive or background / UL: 8DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23a of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.23b Interactive or background / UL: 16 DL: 16 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23b of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.23c Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.23c of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.23d Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH (20 ms TTI)

See subclause 6.11.5.4.1.23d of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.24 Void

Void.

### 9.1.25 Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.25 of [1].

The minimum UE classes supporting this combination are UL: 32 kbps; DL: 64 kbps.

This is supported in Release 4.

### 9.1.26 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.26 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64 kbps.

This is supported in Release 4.

### 9.1.27 Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.27 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release 4.

### 9.1.28 Interactive or background / UL: 128 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.28 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 128kbps.

This is supported in Release 4.

### 9.1.29 Interactive or background / UL: 64 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.29 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 128kbps.

This is supported in Release 4.

### 9.1.30 Interactive or background / UL: 144 DL: 144 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.30 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps; DL: 128kbps.

This is supported in Release 4.

### 9.1.31 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.31 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.32 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.32 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.33 Interactive or background / UL: 128 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.33 of [1].

The minimum UE classes supporting this combination are UL: 128 kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.34 Interactive or background / UL: 384 DL: 384 kbps / PS RAB +UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.34 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps; DL: 384kbps.

This is supported in Release 4.

### 9.1.35 Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.35 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 2048kbps.

This is supported in Release 4.

### 9.1.36 Void

Void.

### 9.1.37 Void

Void.

### 9.1.38 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32kbps.

This is supported in Release 4.

### 9.1.38a Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 0 DL: 0 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38a of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32kbps

This is supported in Release 4.

### 9.1.38b Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38b of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

### 9.1.38c Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38c of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

### 9.1.38d Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38d of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

### 9.1.38e Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 0 DL: 0 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38e of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

### 9.1.38f Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38f of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

### 9.1.38g Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 16 DL: 16 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38g of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

### 9.1.38h Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 32 DL: 32 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38h of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 32 kbps

This is supported in Release 4.

### 9.1.38i Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38i of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps

This is supported in Release 4.

### 9.1.38j Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.38j of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps

This is supported in Release 4.

### 9.1.39 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 32 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.39 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64kbps.

This is supported in Release 4.

### 9.1.40 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.40 of [1].

The minimum UE classes supporting this combination are UL: 64kbps; DL: 64 kbps.

This is supported in Release 4.

### 9.1.41 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.41 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

### 9.1.42 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.42 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps..

This is supported in Release 4.

### 9.1.43 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.43 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.44 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Interactive or background / UL: 128 DL: 2048 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.44 of [1].

The minimum UE classes supporting this combination are UL: 384 kbps; DL: 2048 kbps.

This is supported in Release 4.

### 9.1.45 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Streaming / unknown / UL: 57.6 DL: 57.6 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.45 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release 4.

### 9.1.46 Void

Void.

### 9.1.47 Void

Void.

### 9.1.48 Void

Void.

### 9.1.49 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 64 kbps.

This is supported in Release 4.

### 9.1.49a Conversational / speech / UL: (12.2, 7.95, 5.9, 4.75) DL: (12.2, 7.95, 5.9, 4.75) kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.49 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps ; DL: 64 kbps.

This is supported in Release 4.

### 9.1.50 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.50 of [1].

The minimum UE classes supporting this combination are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

### 9.1.51 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.51 of [1].

The minimum UE classes for this combinations are UL: 64 kbps; DL: 128 kbps.

This is supported in Release 4.

### 9.1.51a Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.51a of [1].

The minimum UE classes for this combinations are UL: 64 kbps ; DL: 64 kbps.

This is supported in Release 4.

### 9.1.51b Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 16 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.51b of [1].

The minimum UE classes for this combinations are UL: 64 kbps ; DL: 128 kbps.

This is supported in Release 4.

### 9.1.52 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 64 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.52 of [1].

The minimum UE classes for this combination are UL: 64 kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.53 Conversational / unknown / UL: 64 DL: 64 kbps / CS RAB + Interactive or background / UL: 128 DL: 128 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.53 of [1].

The minimum UE classes for this combination are UL: 384 kbps; DL: 384 kbps.

This is supported in Release 4.

### 9.1.54 Void

Void.

### 9.1.55 Void

Void.

### 9.1.56 Interactive or background / UL: 8 DL: 8 kbps / PS RAB + Interactive or background / UL: 8 DL: 8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.56 of [1].

The minimum UE classes for this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 4.

### 9.1.57 Interactive or background / UL: 64 DL: 64 kbps / PS RAB + Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.57 of [1].

The minimum UE classes for this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release 4.

### 9.1.58 Streaming / Unknown / UL: 16 DL: 64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.58 of [1].

The minimum UE classes for this combination are UL: 64 kbps, DL: 64 kbps.

This is supported in Release 4.

### 9.1.59 Reserved for future use

### 9.1.60 Reserved for future use

### 9.1.61 Conversational / unknown / UL:8 DL:8 kbps / PS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

See subclause 6.11.5.4.1.561 of [1].

The minimum UE classes for this combination are UL: 32 kbps, DL: 32 kbps.

This is supported in Release 4.

## 9.2 Combinations on PDSCH, SCCH, PUSCH and PRACH

### 9.2.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbs; DL: 384kbs.

This is supported in Release 4.

### 9.2.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbs, DL: 384kbs.

This is supported in Release 4.

### 9.2.3 Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

See subclause 6.11.5.4.2.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbs, DL: 2Mbps.

This is supported in Release 4.

## 9.3 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

### 9.3.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.11.5.4.3.1 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps.

This is supported in Release 4.

### 9.3.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.11.5.4.3.2 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 384kbps.

This is supported in Release 4.

### 9.3.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH, SHCCH and BCCH

See subclause 6.11.5.4.3.3 of [1].

The minimum UE classes supporting this combination are UL: 128kbps; DL: 2048kbps.

This is supported in Release 4.

## 9.4 Combinations on SCCPCH

## 9.4.1 Stand – alone signalling RB for PCCH

See subclause 6.11.5.4.4.1 of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

### 9.4.2 Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.2 of [1].

The minimum UE class supporting this combination is DL: 64 kbps.

This is supported in Release 4.

### 9.4.2a Interactive / Background 32 kbps PS RAB + Interactive / Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.2a of [1].

The minimum UE class supporting this combination is DL: 64 kbps.

This is supported in Release 4.

### 9.4.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.2b of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

### 9.4.3 Interactive / Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.3 of [1].

The minimum UE class supporting this combination is DL: 64 kbps..

This is supported in Release 4.

### 9.4.3a SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

See subclause 6.11.5.4.4.3a of [1].

The minimum UE class supporting this combination is DL: 32 kbps.

This is supported in Release 4.

### 9.4.4 RB for CTCH + SRB for CCCH + SRB for BCCH

See subclause 6.11.5.4.4.4 of [1].

The minimum UE class supporting this combination is DL: 64 kbps..

This is supported in Release 4.

## 9.5 Combinations on PRACH

### 9.5.1 SRB for CCCH + SRB for DCCH

See subclause 6.11.5.4.5.1 of [1].

The minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release 4.

### 9.5.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH

See subclause 6.11.5.4.5.2 of [1].

The minimum UE class supporting this combination is UL: 32 kbps..

This is supported in Release 4.

### 9.5.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRBs for DCCH

See subclause 6.11.5.4.5.3 of [1].

The minimum UE class supporting this combination is UL: 32 kbps.

This is supported in Release 4.

## 9.6 Radio Bearer and Radio Bearer Combinations on DPCH and HS-PDSCH

In the following tables for the references to [1], the details of the configuration are defined there.

### 9.6.1 Interactive or background / UL:8 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.1.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.23a.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.1.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.11.5.4.6.1.2.2.2 of [1] | 6.11.5.4.1.2.2.2 of [1] |  |

### 9.6.1a Interactive or background / UL:8 (multiframe) DL: [max bit rate depending on UE category] / PS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH (multiframe) (REL-5)

9.6.1a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.6.1a.1.1.1 of[1] |  | 6.11.5.4.1.2a.1.1.1 of [1] |  |
| TFCS | 6.10.3.4.1.23d.1.1.3 of [1] | | | |
| Physical Channel | 6.11.5.4.6.1a.1.2 of [1] |  | 6.11.5.4.6.1a.1.2 of [1] |  |

9.6.1a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.3.4.1.2a.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.11.5.4.6.1.2.2.2 of [1] | 6.11.5.4.1.2a.2.2 of [1] |  |

### 9.6.2 Interactive or background / UL:16 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.2.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.23b.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.2.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.11.5.4.6.1.2.2.2 of [1] | 6.11.5.4.1.2.2.2 of [1] |  |

### 9.6.2a Interactive or background / UL:16(multiframe) DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)

9.6.2a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.6.2a.1.1.1 of[1] |  | 6.11.5.4.1.2a.1.1.1 of [1] |  |
| TFCS | 6.10.3.4.1.26.1.1.3 of [1] | | | |
| Physical Channel | 6.11.5.4.6.2a.1.2 of [1] |  | 6.11.5.4.6.2a.1.2 of [1] |  |

9.6.3a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.11.5.4.6.2a.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 9.6.3 Interactive or background / UL:32 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.3.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.23d.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.3.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel |  | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.2.2.1.2 of [1] | | | |
| Physical Channel |  | 6.11.5.4.6.1.2.2.2 of [1] | 6.11.5.4.1.2.2.2 of [1] |  |

### 9.6.3a Interactive or background / UL:32(multiframe) DL: [max bit rate depending on UE category] / PS RAB +UL:3.4 DL:3.4 kbps SRBs for DCCH(multiframe) (REL-5)

9.6.3a.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.6.3a.1.1.1 of[1] |  | 6.11.5.4.1.2a.1.1.1 of [1] |  |
| TFCS | 6.10.3.4.1.28.1.1.3 of [1] | | | |
| Physical Channel | 6.11.5.4.6.3a.1.2 of [1] |  | 6.11.5.4.6.3a.1.2 of [1] |  |

9.6.3a.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.11.5.4.6.2a.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 9.6.4 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.4.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.26.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.4.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.11.5.4.6.2.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 9.6.5 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.5.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.28.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.5.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.11.5.4.6.2.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 9.6.6 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.6.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.38c.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.6.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.2.4.1.4.2.1.1 of [1] | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.2.4.1.4.2.1.3 of [1] | | | |
| Physical Channel | 6.10.2.4.1.4.2.2 of [1] | 6.11.5.4.6.1.2.2.2 of [1] | 6.10.2.4.1.4.2.2 of [1] |  |

### 9.6.7 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.7.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.40.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.7.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.11.5.4.6.5.2 of [1] | | | |
| TFCS |
| Physical Channel |

### 9.6.8 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (REL-5)

9.6.8.1 Uplink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | ***(reserved for Radio Bearer on E-DCH )*** | **Signalling Radio Bearer on DPCH** | ***( reserved for Signalling Radio Bearer on E-DCH )*** |
| Transport Channel | 6.11.5.4.1.51.1 of [1] | | | |
| TFCS |
| Physical Channel |

9.6.8.2 Downlink

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Radio Bearer on DPCH** | **Radio Bearer on HS-PDSCH** | **Signalling Radio Bearer on DPCH** | **Signalling Radio Bearer on HS-PDSCH** |
| Transport Channel | 6.10.3.4.1.13.2.1.1 of [1] | 6.11.5.4.6.1.2.1.1 of [1] | 6.10.2.4.1.2.2.1.1 of [1] |  |
| TFCS | 6.10.3.4.1.13.2.1.3 of [1] | | | |
| Physical Channel | 6.11.5.4.1.13.2.2 of [1] | 6.11.5.4.6.1.2.2.2 of [1] | 6.11.5.4.1.13.2.2 of [1] |  |

Annex A:   
Service scenarios

This chapter presents a selection of service scenarios, which are used as a basis for the RAB scenarios. Only the basic scenarios having impact on the lower layers are considered. Because the real time applications have the tightest connection with the lower layers, the real time scenarios are studied more in detail in this document. Other scenarios can be derived as combinations of these basic scenarios.

Even though these scenarios are for IMS, they are applicable also for non-IMS PS scenarios. The differences between IMS and non-IMS are small in RAN level: Usually, the difference is that in non-IMS cases the IMS signalling stream is left out or replaced by non-IMS signalling stream. Other differences are indicated later in the text, whenever necessary.

Table A-1: Service scenarios

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | IMS Signallingg | Speech (RTP) | Speech (RTCP) | Audio (RTP) | Audio (RTCP) | Video (RTP) | Video (RTCP) | Text (RTP) | Text (RTCP) | Data | Notes |
| 1 | Speech | X | X | X | - | - | - | - | - | - | O |  |
| 2 | Audio | X | - | - | X | X | - | - | - | - | O |  |
| 3 | Video | X | - | - | - | - | X | X | - | - | O |  |
| 4 | Text | X | - | - | - | - | - | - | X | X | O |  |
| 5 | Speech, Video | X | X | X | - | - | X | X | - | - | O |  |
| 6 | Audio, Video | X | - | - | - | - | X | X | X | X | O |  |
| 7 | Speech, Text | X | - | - | X | X | X | X | - | - | O |  |
| 8 | Video, Text | X | X | X | - | - | - | - | X | X | O |  |
| 9 | Speech, Video, Text | X | X | X | - | - | X | X | X | X | O |  |
| 10 | Audio, Text | X | - | - | X | X | - | - | X | X | O |  |
| 11 | Audio, Video, Text | X | - | - | X | X | X | X | X | X | O |  |
| X = stream included in scenario  - = stream not included in scenario  O = stream optionally included in scenario | | | | | | | | | | | | |

NOTE: In some 3GPP specifications (e.g., [10]) "audio" and "speech" are not separated, but handled under title "audio".

In most of the scenarios, the services can be either streaming or conversational. For PS streaming, there is no full IMS support in Release 5. However, this does not have major impact on the items presented in this document.

The protocol layers of the scenarios are presented in Figure A-1 for conversational and in Figure A-2 for streaming services ([10], [11]).



Figure A-1 – User plane protocol stack for conversational multimedia terminal

The protocol layers for IMS signalling stream, not presented in the figure, are (SDP/)SIP/UDP/IP.



Figure A-2: Protocol stack for PS streaming terminal

## A.1 Common characteristics of scenarios

The characteristics of the streams in the next sub-chapters are common to all or most of the scenarios.

In scenarios, where the IP protocol header size or contents are relevant, it is assumed that IPv6 header without extension headers is used, i.e., the IP header size is 40 bytes. The UDP header size is 8 bytes.

### A.1.1 RTP and RTCP streams

### A.1.2 Signalling stream

### A.1.3 Data stream

The data stream may be used to carry any background or interactive data. Examples on data are still images, graphics, and scene / presentation descriptions, shown in Figure A-2 and [11], as well as web browsing and/or file download. Low delay is not guaranteed, and the data rates may vary between 0 kbps and the maximum bit rate of the context.

## A.2 Scenarios

In each of the scenarios, there is also an additional PDP context for SIP or RTSP, and optionally one or more PDP contexts for data. Which PDP contexts are primary or secondary, is not relevant for RAB scenarios.

### A.2.1 Speech

For the IMS speech service, the parameters that the transmitter should use (and the receiver shall at least support) are defined more precisely than for any other service in [10].

NOTE: Speech is defined under the term "audio" in [10].

Both AMR and AMR-WB are included. The parameters for speech are presented below, derived from [10] and [13]:

Table A.2.1-1: Conversational IMS speech service parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **Selection or parameter value** | | **Notes** |
|  | Nr of AMR / AMR-WB frames in RTP packet | One | | Min. 20 ms packet interval  RTP header adds 12 bytes |
| AMR / AMR-WB payload mode | Bandwidth efficient | |  |
| AMR , lowest and highest modes | AMR / AMR-WB mode | Payload bytes per frame | Payload bits include ARM data, payload header, table of contents and padding.  Multi-channel session, interleaving or internal CRC not used.  Size of SID frame is 7 bytes. |
| 4.75 | 14 |
| 12.2 | 32 |
| AMR-WB, lowest and highest modes | 6.6 | 18 |
| 23.85 | 61 |

For non-IMS services, the above-mentioned restrictions are not applicable. However, it can be assumed that the parameters for conversational VoIP services do not usually deviate significantly from those given above.

For speech streaming, the codecs are the same as above (AMR and AMR-WB) [11]. In [14], examples on streaming services are presented. The most important difference to the conversational parameters is that the number of speech frames in one RTP packet may be much larger (e.g., 10). On the other hand, the payload mode can be different (octet aligned), CRCs included etc. (as in [14]), which gives larger payload presented in table A.2.1-1.

### A.2.2 Audio

"Audio" in this document refers to other than speech-based audio (music, combination of music and speech, etc…).

In [10] there is no distinction between audio and speech for conversational traffic. The default audio codecs for IMS are AMR and AMR-WB, hence the numbers in chapter A.2.1 are applicable.

According to [11], MPEG-4 AAC-LC codec should be supported for audio streaming, and in addition, also MPEG-4 AAC-LTP may be supported. As for the speech streaming, the RTP packets contain of several audio frames, as presented in [14].

### A.2.3 Video

The video codecs have a wide range of possible bit rates and packet sizes. For streaming and conversational video, the codecs are H.263 and MPEG 4 (see [11] and [15]). RTP packet size is restricted in IMS conversational video to 512 bytes [10].

Examples on video streaming are presented in [14]. There is a wide range of RTP packet rates, depending on various factors, e.g., codec rate or packetization.

### A.2.4 Text

According to [16], the data rate of T.140 text telephony over RTP is low: "The rate of character entry is usually at a level of a few characters per second or less. Therefore, the expected number of characters to transmit is low. Only one or a few new characters are expected to be transmitted with each packet". Hence, large part of the traffic consists of the overhead, i.e., RTP/UDP/IP headers and RTCP/UDP/IP packets. The data rate is mostly less than 1 kbps. Whenever the delay has to be guaranteed, the context cannot be of interactive or background traffic class, but e.g., streaming class has to be used.

It should be noted that text telephony does not include document viewing or other similar use, but only situations where the text is entered by human users in the both ends. For example, the "Text" service in Figure A-2 does not refer to text telephony.

### A.2.5 Speech and video

There are basically two different alternatives, depending on whether audio and video streams are on the same or different PDP contexts. The former case is basically similar to the scenario in the chapter A.2.3. The latter latter case has different implications on lower layers. For streaming case with speech and video over the same context, there is an example in [14].

### A.2.6 Audio and video

The difference in this scenario to the previous one is that the audio/speech coded may be different. On lower layers, this can be handled as the previous scenario.

### A.2.7 Video, audio, or speech with text

The additional text telephony stream adds a low bit rate PDP context. Whenever there is a requirement to synchronize the text with the voice or video stream, the text telephony context delay parameters have to be aligned with those of the others (i.e., the delay requirement may be stricter than for stand-alone text telephony).

Annex B:   
Mapping of service scenarios to Radio Access Bearers

## B.1 Common requirements

The bearers in this document shall be based entirely on existing 25-series specifications. That is, no requirement on RABs that is not in line with existing RAN specifications, shall be presented.

In this chapter, the main principles for selecting the parameters are presented.

## B.2 Bearer characteristics

The following table lists general characteristics of the bearers in the scenarios:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Parameter** | **Typical selection or parameter value** | **Notes** |
| PDCP | PDCP header, bits | 8 | 8 bit PDCP header is the default in the scenarios.  (For lossless SRNS relocation support, PDCP header can also contain sequence number of 16 bits.) |
| Header compression | RFC 3095 (ROHC) | ROHC assumed to compress [RTP/]UDP/IP (and ESP/IP) traffic.  No ROHC context identifier needed: PID field (5 bits) of PDCP header is sufficient to indicate all ROHC contexts in the given scenarios.  The most common header (shortest 2nd order header) is 3 bytes when UDP checksum is present (with IPv6); see RLC payload sizes.  ROHC feedback packets transmitted in opposite direction, interspersed with main flow packets.  Segmentation of ROHC not in use, because only non-transparent RLC modes in these scenarios. |
| RFC 2507 | For TCP/IP compression (even though any IP headers, also those in UDP/IP could be compressed by RFC 2507).  TCP/IP used in interactive and background, therefore no impact on RLC payload sizes |
| RLC |  |  |  |
| RLC mode | UM or AM | TM not possible because no a priori information on (compressed) IP packets, and no mechanism specified for negotiating ROHC packet sizes parameters.  UM used for conversational traffic class, AM for all other classes. |
| Payload sizes, bit |  | Number of different payload sizes to be limited so that max size of TFCS is reasonably low.  In some scenarios, one of payload sizes is IP payload with shortest ROHC header.  For AM, default payload size is 320 bits |
| Max data rate, kbps |  | The actual data rate on IP layer is somewhat different from this nominal figure, due to:   * PDCP header * Length indicator part of RLC header * Retransmissions (in AM) * Header compression |
| UMD/AMD PDU header, bit | 8 / 16 | 8 for UM, 16 for AM |

Table B.2-1: Common characteristics of L2

In the scenarios, the RABs for data stream are not presented. Each of the scenarios may or may not have one or more RABs for data stream. The RABs can be selected from the interactive/background RABs.

## B.3 RAB Scenarios

NOTE: The following RAB combinations are only examples of possible implementations of the scenarios.

Due to flexibility in RAN specifications (and in PDP context parameters) there is a large number of other possible RABs and their combinations that could implement the scenarios. There are also other RAB combinations applicable for other scenarios, not listed below.

This chapter concentrates on the basic scenarios of chapter A.2.1, thus excluding most of the combinations of multiple sessions.

Annex C:  
Change history

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | | |
| **Date** | **TSG #** | **TSG Doc.** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |  |
| 09/2002 | RP-17 | RP-020663 | - |  |  | Creation. | - |  |
| 12/2002 | RP-18 | RP-020890 | - |  |  | Merge of RP-020877 with RP-020814. Clause numbering changed.  Approved at TSG RAN#18. | 6.0.0 |  |
| 03/2003 | RP-19 | RP-030109 | 001 |  |  | Streaming and interactive/background RAB combinations | 6.1.0 |  |
|  | RP-19 | RP-030109 | 002 |  |  | QoS attributes for RABs in 25.993 | 6.1.0 |  |
|  | RP-19 | RP-030109 | 003 |  |  | TDD RABs in 25.993 | 6.1.0 |  |
| 06/2003 | RP-20 | RP-030288 | 004 |  |  | Corrections to the UE capabilities and editorial changes | 6.2.0 |  |
|  | RP-20 | RP-030288 | 005 |  |  | New configuration for CBS: CTCH, PCCH, 32kbps RAB and SRBs on 1 S-CCPCH | 6.2.0 |  |
|  | RP-20 | RP-030288 | 006 |  |  | New SCCPCH Configurations | 6.2.0 |  |
|  | RP-20 | RP-030288 | 008 |  |  | PS streaming and CS speech RAB combinations | 6.2.0 |  |
|  | RP-20 | RP-030288 | 009 |  |  | RB configuration for the support of wideband AMR speech telephony services | 6.2.0 |  |
|  | RP-20 | RP-030288 | 010 |  |  | Corrections on TDD RABs | 6.2.0 |  |
| 09/2003 | RP-21 | RP-030497 | 012 |  |  | IMS RAB scenarios | 6.3.0 |  |
|  | RP-21 | RP-030489 | 013 |  |  | Addition of Streaming RABs | 6.3.0 |  |
| 12/2003 | RP-22 | RP-030609 | 014 |  |  | BTFD with Flexible TrCH position | 6.4.0 |  |
|  | RP-22 | RP-030609 | 015 |  |  | Addition of Conversational – Interactive/Background RAB combination | 6.4.0 |  |
| 03/2004 | RP-23 | RP-040100 | 019 |  |  | Alignment with 34.108 for TDD | 6.5.0 |  |
|  | RP-23 | RP-040100 | 024 |  |  | S-CCPCH combination for HS-DSCH channel type switching | 6.5.0 |  |
|  | RP-23 | RP-040109 | 025 |  |  | DCH combination for HS-DSCH channel type switching | 6.5.0 |  |
| 06/2004 | RP-24 | RP-040205 | 026 |  |  | Corrections on required capabilities for 32kbps UE class and addition of the 12kbps class | 6.6.0 |  |
|  | RP-24 | RP-040205 | 027 |  |  | Addition of RAB Parameters For RABs Removed From TS34.108 But Retained In TS25.993 | 6.6.0 |  |
| 09/2004 | RP-25 | RP-040325 | 028 |  |  | Physical layer multiplexing configuration in case of AMR and two PS RABs with zero bit rates | 6.7.0 |  |
|  | RP-25 | RP-040325 | 029 |  |  | Physical layer multiplexing configuration in case of two PS RABs | 6.7.0 |  |
|  | RP-25 | RP-040325 | 030 |  |  | Correction of RAB configuration in 1.28Mcps TDD | 6.7.0 |  |
|  | RP-25 | RP-040325 | 032 |  |  | Conversational PS RAB for HS-DSCH | 6.7.0 |  |
| 12/2004 | RP-26 | RP-040483 | 031 | 3 |  | Addition of HSDPA RABs | 6.8.0 |  |
|  | RP-26 | RP-040475 | 033 |  |  | Addition RAB combinations for UL>DL PS rates | 6.8.0 |  |
|  | RP-26 | RP-040475 | 034 |  |  | Radio bearer combination for PS streaming in section 7.1.74 | 6.8.0 |  |
|  | RP-26 | RP-040475 | 035 | 1 |  | Correct TFCS used in 128DL RAB | 6.8.0 |  |
| 03/2005 | RP-27 | RP-050064 | 036 |  |  | Addition of asymetric RAB-combinations with voice | 6.9.0 |  |
|  | RP-27 | RP-050071 | 037 |  |  | AMR-WB reference RAB configurations | 6.9.0 |  |
| 06/2005 | RP-28 | RP-050325 | 0038 |  |  | Introduction of fixed DTX positions for I/B RAB combinations | 6.10.0 |  |
|  | RP-28 | RP-050325 | 0039 |  |  | Inclusion of HSDPA RABs already defined in 34.108 | 6.10.0 |  |
|  | RP-28 | RP-050321 | 0040 |  |  | CCCH message enhancements | 6.10.0 |  |
|  | RP-28 | RP-050325 | 0041 |  |  | Introduction of Streaming RABs over HSDPA | 6.10.0 |  |
| 09/2005 | RP-29 | RP-050455 | 0042 |  |  | Redefiniton of Radio Access Bearer (RAB) combinations | 6.11.0 |  |
|  | RP-29 | RP-050455 | 0043 |  |  | Proposed new notation for HSDPA Radio Bearers (RB) | 6.11.0 |  |
|  | RP-29 | RP-050455 | 0044 |  |  | Combinations of radio bearers on DPCH with WB-AMR and I/B PS | 6.11.0 |  |
|  | RP-29 | RP-050455 | 0045 |  |  | Inclusion of additional example RAB combinations | 6.11.0 |  |
|  | RP-29 | RP-050455 | 0046 |  |  | Addition of RAB-combinations with AMR 5.9 voice and AMR 12.2 with two PDP contexts | 6.11.0 |  |
|  | RP-29 | RP-050487 | 0047 |  |  | Maximum number of bits per TTI for extended CCCH | 6.11.0 |  |
|  | RP-29 | RP-050586 | 0050 | 1 |  | Reference RB configuration for AMR utilising 5.9, and 4.75 kbps with SF256 in DL | 6.11.0 |  |
| 12/2005 | RP-30 | RP-050799 | 0048 | 3 |  | Addition of VoIP RAB combinations | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0049 | 3 |  | Addition of VoIP RAB combination for multiplexed RTP and RTCP flows | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0051 | 1 |  | Addition of multi-rate AMR-NB configuration with SRB#5 | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0052 | 1 |  | Introduction of high bit rate SRB | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0053 | 3 |  | Addition of multi-rate AMR configuration over HSDPA | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0054 | 1 |  | Miscellaneous corrections | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0055 |  |  | Introduction of conversational mono rate AMR 5.9 kbps RAB with SF 128. | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0057 |  |  | PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive 0 kbps | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0060 |  |  | WB-AMR configurations | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0061 | 1 |  | Addition of VoIP RAB combinations | 6.12.0 |  |
|  | RP-30 | RP-050799 | 0062 |  |  | Addition of VoIP RAB combination for multiplexed RTP and RTCP flows | 6.12.0 |  |
| 03/2006 | RP-31 | RP-060088 | 0056 | 2 |  | Reference RAB configurations for MBMS | 6.13.0 |  |
|  | RP-31 | RP-060082 | 0063 |  |  | Corrections to TR 25.993 | 6.13.0 |  |
|  | RP-31 | RP-060083 | 0064 |  |  | VT bearer configurations | 6.13.0 |  |
|  | RP-31 | RP-060083 | 0065 |  |  | Introduction of additional WB-AMR RAB combinations | 6.13.0 |  |
|  | RP-31 | RP-060087 | 0066 |  |  | Introduction of EUL RB configurations | 6.13.0 |  |
|  | RP-31 | RP-060082 | 0067 | 1 |  | Uplink Streaming 128 kbps combinations | 6.13.0 |  |
|  | RP-31 | RP-060087 | 0068 | 1 |  | VoIP reference configuration for E-DCH | 6.13.0 |  |
|  | RP-31 | RP-060089 | 0069 |  |  | Alternative reference RB configurations for MBMS | 6.13.0 |  |
| 06/2006 | RP-32 | RP-060368 | 0070 |  |  | Correction of transport block sizes in MBMS reference bearer configurations | 6.14.0 |  |
|  | RP-32 | RP-060367 | 0071 |  |  | Addition of the combinations on DPCH and HS-PDSCH for LCR TDD | 6.14.0 |  |
|  | RP-32 | RP-060367 | 0073 |  |  | Correction of internal references | 6.14.0 |  |
|  | RP-32 | RP-060367 | 0074 |  |  | Reference configuration of AMR (5.9 kbps, 4.75 kbps) and HSDPA and E-DCH | 6.14.0 |  |
|  | RP-32 | RP-060367 | 0075 |  |  | Puncturing limit correction in 7.1.112 | 6.14.0 |  |
|  | RP-32 | RP-060372 | 0076 |  |  | New configurations with ‘flexible TFCS’ | 6.14.0 |  |
|  | RP-32 | RP-060371 | 0077 | 1 |  | Introduction of high data rate SRB | 6.14.0 |  |
| 09/2006 | RP-33 | RP-060572 | 0078 |  |  | Correction to chapter numbering in E-DPDCH and HS-DPSCH RB combinations | 6.15.0 |  |
|  | RP-33 | RP-060572 | 0084 |  |  | Correction on combinaisons with Streaming / unknown / UL:0 DL:64 kbps / CS RAB | 6.15.0 |  |
|  | RP-33 | - | - |  |  | Upgrade to the Release 7 - No technical change | 7.0.0 |  |
| 12/2006 | RP-34 | RP-060721 | 0079 | 3 |  | Addition of VoIP RAB combination for multiplexed RTP and RTCP flows when ROHC is in steady state | 7.1.0 |  |
|  | RP-34 | RP-060721 | 0085 |  |  | Additional I/B RAB combinations | 7.1.0 |  |
|  | RP-34 | RP-060721 | 0086 |  |  | 7.6 kbps signalling RB for MCCH | 7.1.0 |  |
|  | RP-34 | RP-060721 | 0087 |  |  | Reference SRB configuration for MCCH | 7.1.0 |  |
| 03/2007 | RP-35 | RP-070152 | 0088 | 1 |  | Correction on RAB combinations for VoIP for TR 25.993 | 7.2.0 |  |
|  | RP-35 | RP-070152 | 0089 |  |  | Addition of IMS MM Telephony configurations over HSPA | 7.2.0 |  |
|  | RP-35 | RP-070152 | 0090 |  |  | Correction to TF size in MBMS reference configuration | 7.2.0 |  |
|  | RP-35 | RP-070152 | 0091 |  |  | UE capability requirement for 7.6 kbps signalling RB for MCCH | 7.2.0 |  |
|  | RP-35 | RP-070152 | 0092 |  |  | Additional HSPA RAB Combinations | 7.2.0 |  |
|  | RP-35 | RP-070152 | 0093 |  |  | Additional HSDPA RAB Combinations | 7.2.0 |  |
| 06/2007 | RP-36 | RP-070396 | 0094 | 1 |  | Addition of RAB combinaison for SRB mapped on DL “HSDPA + DCH” | 7.3.0 |  |
|  | RP-36 | RP-070396 | 0095 |  |  | Additional DCH RAB Combinations | 7.3.0 |  |
|  | RP-36 | RP-070396 | 0096 |  |  | HSPA RAB Combinations | 7.3.0 |  |
|  | RP-36 | RP-070396 | 0097 |  |  | Additional HSPA RAB Combinations | 7.3.0 |  |
| 09/2007 | RP-37 | RP-070623 | 0098 |  |  | HSUPA and HSDPA with SRBs on 13.6 kbps DCH | 7.4.0 |  |
|  | RP-37 | RP-070625 | 0099 |  |  | References to radio bearer for MCCH and MTCH testing | 7.4.0 |  |
|  | RP-37 | RP-070624 | 0100 |  |  | Add references to additional combinations on PRACH adopted in 34.108 | 7.4.0 |  |
|  | RP-37 | RP-070624 | 0101 |  |  | Additional DCH RAB Combination | 7.4.0 |  |
|  | RP-37 | RP-070624 | 0102 |  |  | Very low bit rate WB-AMR configuration | 7.4.0 |  |
|  | RP-37 | RP-070624 | 0103 |  |  | Additional DCH RAB combination | 7.4.0 |  |
| 12/2007 | RP-38 | RP-070895 | 0104 |  |  | MBMS ptp RAB on HS | 7.5.0 |  |
|  | RP-38 | RP-070892 | 0106 |  |  | Removal of incorrect configuration | 7.5.0 |  |
| 03/2008 | RP-39 | RP-080190 | 0107 | 1 |  | RB combinations for flexible PDU sizes and MAC-ehs | 7.6.0 |  |
|  | RP-39 | RP-080180 | 0108 | - |  | RAB combinations MBMS PTP on DPCH | 7.6.0 |  |
| 05/2008 | RP-40 | RP-080405 | 0109 | - |  | RAB combinations for CS voice over HSPA | 8.0.0 |  |
| 09/2008 | RP-41 | RP-080687 | 0111 | - |  | RAB combinations for CS voice over HSPA | 8.1.0 |  |
| 12/2008 | RP-42 | RP-081012 | 0112 | 1 |  | Update of references to TS 34.108 CS voice over HSPA RAB combinations | 8.2.0 |  |
| 09/2009 | RP-45 | RP-090916 | 0114 | - |  | CS over HSPA RAB combinations adding | 8.3.0 |  |
| 12/2009 | RP-46 | RP-091328 | 0115 | 1 |  | Editorial modification to 25.993 | 8.4.0 |  |
| 12/2009 | RP-46 | - | - | - |  | Upgrade to the Release 9 - no technical change | 9.0.0 |  |
| 03/2010 | RP-47 | RP-100294 | 0117 | - |  | Rapporteur CR for corrections to 25.993 | 9.1.0 |  |
| 12/2010 | RP-50 | RP-101213 | 0118 | - |  | Adding the 12.2/7.4/5.9/4.75 kbps speech without SRB#5 | 10.0.0 |  |
| 09/2012 | RP-57 | - | - | - |  | Upgrade to the Release 11 - no technical change | 11.0.0 |  |
| 09/2014 | RP-65 | - | - | - |  | Upgrade to the Release 12 - no technical change | 12.0.0 |  |
| 12/2015 | RP-70 | - | - | - |  | Upgrade to the Release 13 - no technical change | 13.0.0 |  |
| 12/2015 | RP-70 | RP-152059 | 0119 | 1 |  | Introduction of EVS CS RABs | 13.0.1 |  |
| 12/2015 | RP-70 | - | - | - |  | Upgrade to the Release 13 - no technical change | 13.0.0 |  |
| 03/2017 | RP-75 |  |  |  |  | Upgrade to Release 14 - no technical change | 14.0.0 |  |

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| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2018-06 | SA#80 | - | - | - | - | Upgrade to Release 15 - no technical change | 15.0.0 |
| 2020-07 | RP-88e | - | - | - | - | Update to Rel-16 version (MCC) | 16.0.0 |